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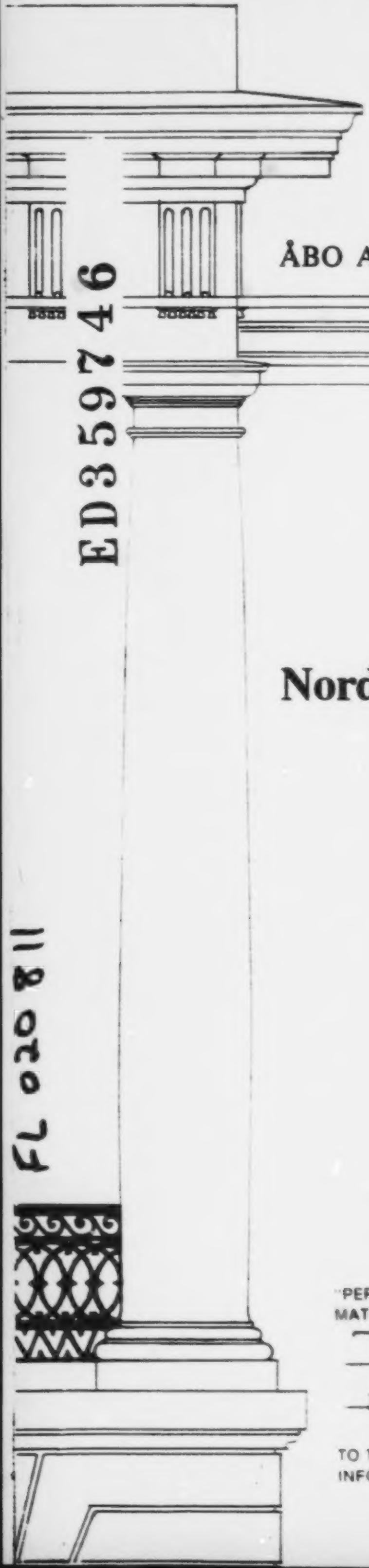
ABSTRACT

Papers presented at the 1990 Symposium of the Nordic Research Group for Theoretical and Applied Text Linguistics include the following: "Success Concepts" (Enkvist); "Reconciling the Psychological with the Linguistic in Accounts of Text Comprehension" (Garrod); "Particles as Fundaments of Discourse Structuring" (Fernandez-Vest); "Macrostructure in Conversation" (Backlund); "Lexis in Discourse" (Nyyssonen); "The Notion of Coercion in Courtroom Questioning" (Bulow-Moller); "Message Structure in LSP Texts: A Socially Determined Variation at Different Text Levels" (Gunnarsson); "Main Worlds and Supplements" (Melander); "Identity Relations and Superthemes in Swedish LSP Texts" (Naslund); "Conflicts and Changes in Textual Norms" (Berge); "Sign, Language, and Ritual: Contrastive Discourse Analysis of East German and Soviet TV News" (Pankow); "News Discourse: The Paratextual Structure of News Texts" (Frandsen); "Polyphonic Structure" (Flottum); "Articulation of Relational Propositions: A Tool for Identifying an Aspect of Text Comprehension" (Tirkkonen-Condit); "Temporal Adverbials in Text Structuring: On Temporal Text Strategy" (Virtanen); "Diversifying Procedural Discourse" (Wikberg); "A Sense of Relief: Backgrounding in Argumentative Student Writing" (Evensen); "Text and Reference" (Ventola); "Reference in Academic Rhetoric: A Contrastive Study of Finnish and English Writing" (Mauranen); "Some Aspects of the Pragmatic Organization of Academic Discourse" (Suomela-Salmi); "Composing on the Computer: A Study of Work Habits on the Job" (Wikborg); and "The Use of 'Idea Processors' for Studying Structural Aspects of Text Production" (Eklundh). (JP)



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Nordic Research on Text and Discourse

NORDTEXT Symposium1990

Edited by
Ann-Charlotte Lindeberg,
Nils Erik Enkvist and
Kay Wikberg

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ÅBO 1992
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Introduction

The present volume comprises papers and reports on work-in-progress read at the NORDTEXT Symposium at the Hanasaari Conference Centre in Espoo, Finland, on 10-13 May, 1990. Before going on to present the contents of the volume and saying a few words about the editorial policy, I shall give a brief presentation of NORDTEXT's birth, its activities and its objectives.

1. NORDTEXT

At the beginning of the 1980s Nordic text linguists and discourse analysts who met at conferences expressed the wish to meet in smaller, more specific interest groups to find out what was going on in the field in other Nordic countries, to meet colleagues, and to initiate closer cooperation. In 1984 Nils Erik Enkvist invited a group of scholars he knew to be involved with text linguistics and discourse analysis to a small symposium at Åbo Akademi called "Coherence and Composition". At this symposium NORDTEXT was founded, the name standing for "Nordic Research Group for Theoretical and Applied Text Linguistics". The name is intended to cover research in both theory and application, and in both spoken and written text and discourse, and the term group just refers to all scholars with these particular interests in common. The papers from the first symposium were published under the title *Coherence and Composition: A Symposium* in Publications from the Åbo Akademi Foundation (see References).

The aims of NORDTEXT were stated to be as follows:

> The aim of NORDTEXT is to provide a forum for discussion of linguistic text research for Nordic scholars with orientation toward theory or application, product or process, reception or production, written or oral discourse, and native or foreign languages. This aim is to be furthered by arranging meetings, symposia, and conferences to present and discuss current research. The group is informal and anybody working in the field is welcome to join in.

In order to implement these aims, a steering group was appointed, consisting of representatives from Denmark, Finland, Norway, and Sweden. The group has neither statutes nor budget, so whenever any meetings are arranged, the raising of funding and all other arrangements are up to the local representatives.

After the founding of NORDTEXT the next symposium, small-scale meeting, was held at Lillehammer in Norway in March 1985. However, in August the same year a larger conference was held at the University of Trondheim, the papers from this conference being published under the title *Nordic Research in Text Linguistics and Discourse Analysis* (Evensen ed.) in 1986. A selection of papers also came out as a special issue of *Text* 5-4 , 1985 (Enkvist ed.). In March 1986 there was again a modest-sized symposium at Tällberg in Sweden, and the following year in June a smallish group gathered in Turku, Finland, for a two-day session. In August 1988 a "Nordic Course for Researchers" (Nordisk forskarkurs) was arranged at Gilleleje in Denmark, and this was followed by the 1990 NORDTEXT Symposium which provided the papers of the present volume.

The present steering committee of NORDTEXT comprises the following members:

Dr. Anne Marie Bülow Møller, Lecturer, Copenhagen Business School, Dalgas Have 15, 2000 Frederiksberg, Denmark

Lita Lundquist, Lecturer, Copenhagen Business School, Dalgas Have 15, 2000 Frederiksberg, Denmark

Assistant Professor Eija Ventola, The Language Centre, University of Helsinki, Fabianinkatu 26, 00100 Helsinki, Finland

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The current chairman of the steering committee is Professor Lars S. Evensen.

After the 1990 Symposium there was a small-scale meeting at the Copenhagen Business School in August 1991, and another session is being planned to take place in connection with the international conference "Discourse and the Professions" arranged by ASLA at Uppsala University in August 1992.

2. The present volume

The main objective of NORDTEXT is to spread information about ongoing research in the Nordic countries. NORDTEXT publications have consisted both of reports on work-in-progress and papers in their final form.

The theme of the 1990 symposium was "Discourse structuring: Reception and production strategies". In what follows the papers have been tentatively grouped according to various criteria of linkage, which will be commented on below. The terms 'discourse' and 'text' will be used synonymously, as they have been in the papers, without making a distinction between 'text' in the sense of 'discourse not including its context' and 'discourse' in the sense of 'text including its context'.

2.1. *Fundamental concepts*

The first paper is concerned with the requirements of communicative success. Enkvist breaks down this concept into four main components: *grammaticality*, *acceptability*, *appropriateness*, and *interpretability*. Suggesting that interpretability is the most fundamental of them all, he points out the importance of contextualisation and metalinguistic information as well as of the subjective elements that are necessarily part of the process of comprehension. In this perspective the basic problem of text producers is to find out how the text should best be constructed to facilitate interpretation.

"Reconciling the psychological with the linguistic in accounts of text comprehension", Garrod's paper, focuses on two types of psychological constraints in discourse processing: the '*immediacy constraint*' and the '*limited focussing constraint*'. The paper reports on experimental results of combining psychological constraints with linguistic constraints in the form of contextual manipulation of locally ambiguous sentences or definite as opposed to indefinite noun phrases. In other words, communicative success and interpretability were tested in controlled conditions from the text receivers' point of view.

2.2. *Spoken discourse*

For success in communication, the discourse producer and the receiver must be aware of the functions of discourse signals. Fernandez-Vest's paper on "Particles as fundaments of discourse structuring" illustrates the importance of a consistent theory and methodology of discourse particles for analysing the structuring of oral discourse, especially for languages which do not have a long written tradition, such as Sami. She distinguishes between two main classes of discourse particles: the *particles "proper"*, which share neither phonological nor morphological identity with any other elements of a language, and the *particles "by extension"*, which appear as the "desemanticised" variants of other parts of discourse.

Bäcklund, too, has studied how speakers explicitly mark the structural components in discourse, more specifically in conversations with a problem-solution macrostructure. Speakers are shown to use two types of markers to clarify the macrostructure: those that signal the current type of *component* in the problem-solutions structure , and those that signal *boundaries* between different hierarchical levels of conversational units. Bäcklund shows how the macrostructure is jointly created and signalled by the interlocutors, and demonstrates that the analytic model she has used for spoken and written monologues is applicable to natural conversation as well.

The structuring of spoken English is the focus of Nyyssönen's paper on *lexical patterns* in discourse, too, but his interest is in learner language. Nyyssönen argues that the fulfilling of expectancies on lexical patterning as community codes is a vital part of social and language competence. Thus lexical patterns are seen as having two main functions: to *symbolize* or encode meanings in accordance with contextual requirements and culture-specific community norms on the one hand, and to *frame*, i.e. to signal discourse organisation and matters of self-representation on the other hand, e.g. politeness and face.

In Bülow Møller's paper signalling is subtly blurred in the sense that the *coercion* in questioning in court that is described is not explicitly signalled, and hardly consciously perceived by the addressees. If it were, the manipulation would not be effective. Thus Bülow Møller shows that correlating syntactic form with a speaker's control over hearers' options fails to account for the *inferences* that are used to influence the real addressees, in this case the judge and the jury. In her material the most coercive forces were thus found at the pragmatic, situation-bound level, that is in the attorneys' ironic use of *tact maxims* and the *use/mention* distinction.

2.3. *Situational context and textual change*

The next three papers are all part of a major sociolinguistic project on genre-bound linguistic change and variation called "LSP Texts in the 20th Century" in progress at the University of Uppsala. The material covers three different periods and represents two different genres: science and popular science, within the fields of economics, medicine, and technology. A basic tenet of the study is that changes in the situational context are reflected in texts at different text levels: the cognitive, the pragmatic, the macrothematic and the microsemantic.

After presenting the general framework and the methods of analysis, Gunnarsson's paper focuses on the impact of text-external changes, such as professional specialization, internationalization and diversification, to mention just a few, on genre characteristics at the macrothematic level, i.e. on the frequencies of various *superthemes* (the introduction, theme development, and discussion sections) in the two genres: science and popular science. In addition, changes in the relative proportion of the three superthemes in the respective fields of science (not including popular science) over time are found to show a converging trend. Gunnarsson also discerns a shift towards a more homogeneous superthematic pattern in the fields of medicine and technology, probably reflecting a shift from the German content-digressive to the American more linear thematic structure in modern scientific discourse. The results seem to indicate a development towards clearer genre boundaries.

The focus of Melander's study of the same material is on the cognitive text content, which is classified into five types of *cognitive worlds*: the *scientific*, the *practical*, the *object*, the *private*, and the *external* worlds. The manifestations of a specific cognitive world may be clustered or scattered in a text, and certain cognitive worlds may be regarded as dominating different parts of a text. On the basis of domination, the functions of the cognitive worlds in a text are divided into main world, secondary world, excursus, and supplement. The frequencies of occurrence of these functions in the various types of texts during the various periods of time are then described, showing definite trends of development and also genre-specific characteristics.

The observations of Gunnarsson and Melander are complemented by Näslund, who has studied the frequency of cohesive relations, in the current paper *identity relations*, in the various global sections of the texts called *superthemes*. Three types of identity relations are examined: 'pure' identity, partial identity, and possessive relationships. Clear trends are found as to the frequencies of each type in the three major superthemes, i.e. the introduction, theme development, and discussion sections of the material, with characteristic patterns discernible in each field of science.

In his paper "Conflicts and changes in textual norms" Berge illustrates how conflicting requirements on the well-formedness and appropriateness of a text affect the text structure. The first instance is a historical document which is the result of an effort at meeting several simultaneous functional demands, when no norm or model was yet established; the second instance shows how attempts to resolve conflicting situational expectations in school composition are manifested in the textual structure. Berge also discusses norm conflicts as potential causes of norm changes.

2.4. *News discourse and signalling of structure*

Manipulation of a subtle kind may be seen as the underlying rationale of the structuring of texts in Pankow's material: the TV newscasts of former East Germany and the Soviet Union. Her paper offers some preliminary observations on a project which ultimately aims at showing that the special communicative functions of newscasts in different cultures, namely former West Germany, former East Germany, the Soviet Union and the USA, are manifested in the *syntactic-semantic patterning* of the texts.

News discourse in the printed form is the material of Frandsen's investigation into the structure of the headlines (superheadline, main headline and subheadlines) and the lead, called the *paratextual structure*, of newspaper articles. Developing van Dijk's framework of the function and status of paratext in news texts, Frandsen shows how paratextual units may form a coherent and relatively autonomous microsystem, which is strategically placed between text producer(s) and text receiver(s) with a view to steering the ensuing interpretation(s) by transforming or complementing the information given in the main body of the news text.

Frandsen observes that in the paratext of news discourse the editor's voice is superimposed on the voice of the author of the discourse. Similarly Fløttum is interested in the *polyphonic structure* of a newspaper text, but from the point of view of examining the roles of the different voices in the hierarchic organisation of information in connection with the writing of summaries. She identifies various polyphonic elements and shows that the relations between the speaker and the various enunciators (or points of view) manifested in the news text, namely *adherence*, *acceptance*, and *dissociation*, can be used as predictors of what is included in a model summary of the text.

A short news article is used as illustration in Tirkkonen-Condit's paper which deals with the *articulation of relational propositions* as a tool for identifying the rhetorical relations in text. She demonstrates how a text evokes certain readers' expectations and how the text structure relies on inferences generated by these expectations. Comprehension is based on inferred relational propositions, the ease of processing being dependent on whether the proposition is immediately identifiable, identifiable after some further reading, or not identifiable at all.

Newspaper discourse forms only part of the material investigated by Virtanen, but her paper seems to fit best in this section as its focus, too, is on signalling text structure. Her material further includes journals, private and business letters, and prose fiction. The frequencies and the textual functions of a selection of sentence-initial *temporal adverbials* in various types of texts are examined. Virtanen demonstrates how paragraph-initial temporals indicate major topic shifts, while sentence- or clause-initial temporals not placed paragraph-initially signal more local text structuring. Different types of texts also showed different frequencies of temporals, both overall and as regards global vs. local structuring.

2.5. *Procedural discourse*

Whereas Bülow Møller's, Pankow's and Frandsen's papers examine more or less implicit means of manipulating the belief systems or convictions of addressees, the material of Wikberg's study is explicitly directive, as he deals with procedural discourse in the form of manuals, instructions and recipes. However, Wikberg shows that even in procedural discourse various subtypes of discourse have consistent and varying *degrees of directness/indirectness* in how the macroact of prescribing is realised, depending on what the ultimate aims of the directives are.

2.6. *Learner language*

A number of papers deal with student writing at different age levels. Evensen presents a preliminary report on two studies of Norwegian pupils' writing in the 8th and 9th school year, one of compositions in English, and the other of compositions in L1. Examining the writers' use of textually motivated *shifts in verb form*, Evensen finds that these occur more frequently in L1. However, in the use of *global discourse pointers* in relation to local connectors the student writers show the opposite trend, i.e. higher frequencies in EFL. From a developmental point of view, Evensen observes a trend towards more elaboration and more explicit signalling of so-called meso-level structures, as opposed to global or local structures.

Ventola and Mauranen have initiated a substantial cross-cultural study of professional academic writing in Finnish and English, and the two papers in this volume are integral parts of that study. It is the EFL component that provides the learner connection here. From the vantage-point of a systemic-functional framework, Ventola discusses problems that Finnish writers have with the cohesive operation of reference items like articles and pronouns for *participant identification* and *tracking of central participants* in a text in English. Examples taken from the field of public health science written in English as L1 are compared with similar texts in EFL written by Finns.

A contrastive study of the realisation of reference is the focus of Mauranen's paper as well. By comparing three types of texts, texts written by Finnish scientists in English, equivalent texts by native speakers of English, and texts written by Finnish scientists in L1, Mauranen identifies various similarities, but also a number of differences. Thus Finnish writers employed fewer *selective reference items* than did native speakers of English, which is seen as likely to reduce persuasiveness. Another difference was observed in the Finns' tendency to introduce *central referents* relatively late, as compared to the texts written by native speakers of English, and this is seen as possibly creating an effect of vagueness.

Whereas Ventola and Mauranen compare academic writing in Finnish and English, Suomela-Salmi examines scholarly writing in Finnish and French, both by native speakers and by Finnish scholars, as well as summaries written in French by Finnish university students for their Master's theses. Suomela-Salmi's hypothesis is that Finnish writers use fewer *explicit markers* of text organisation than French writers do. Looking at the use of various "markers of linear integration" and the paragraph as a textual organiser, she finds some support for the hypothesis.

2.7. *Writing processes and the computer*

The final two papers report on research carried out in the project "Computer Based Writing" at the Computing Science Department of the Royal Institute of Technology in Stockholm. The ultimate aim of the study is to find ways in which computer support can be better adapted to writers' needs. To that end a considerable number of professionals from different fields who use word processing to compose texts have been interviewed about their methods of planning, developing and revising their texts. A sample of the texts have been studied at different stages of the writing process.

Wikborg's paper reports on an in-depth study of a selected number of the informants, and focuses on perceived changes over time in their writing habits. Despite individual variation, the advantages of word processing reported included the ease of fuller note-taking, the opportunity of writing in short spells in jobs subjected to interruptions, the release from having to compose linearly, the contribution of outlining programs, and the use of windows to gain an overview of the text. Wikborg hypothesises that word processing profoundly affects the interaction between the different stages in the writing process: i.e. planning, execution, and revision, as well as the means by which coherence is achieved in the text.

Severinson Eklundh reports on a case study of the impact of the use of *idea processors* or advanced outline processors on the writing processes of a graduate student of architecture as well as on those of a researcher in English language and literature engaged in writing fairly long and complex documents. For one type of writer the use of idea processors seemed to promote a more extensive planning at different levels and a more global processing of the text in progress, with the result that local, surface-level revision was postponed, while for another it seemed to impede "writing for discovery". In contrast to word processing, the outline mode of idea processors was found to facilitate the writers' orientation in the overall text, by making it easier to get an overview and to check on global coherence.

3. *Acknowledgements*

On behalf of the organising committee of the NORDTEXT Symposium 1990 I would like to express our gratitude to the Nordic Council of Ministers, the Academy of Finland, the Research Institute of the Åbo Akademi Foundation, and the Swedish School of Economics and Business Administration in Helsinki without whose support the 1990 Symposium and this publication would not have been possible. As editor-in-chief I would also like to thank my coeditors Nils Erik Enkvist and Kay Wikberg for their contributions to the realisation of this volume.

Helsinki, November 1991.

Ann-Charlotte Lindeberg

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IN MEMORIAM

NORDTEXT honours the memory of our esteemed colleague Professor Dieter Viehweger of Akademie der Wissenschaften of the former GDR. We remember his friendly presence and valuable contributions at the 1990 NORDTEXT Symposium. His untimely death prevented him from completing the final version of his paper for inclusion in this volume.

Success concepts

Keynote Address at the NORDTEXT Symposium, Hanasaari, May 1990

NILS ERIK ENKVIST

Abstract

In studies of discourse at all levels - syntax, semantics, pragmatics - we have use for concepts indicating greater or less success in the production of linguistic forms, meanings, and speech acts. This paper rehearses some familiar matters on grammaticality, acceptability and appropriateness, and suggests supplementing these three concepts with a fourth, interpretability.

1 Introduction

When I was honoured by an invitation to start the NORDTEXT Symposium of 1990 with a keynote address, my quest for a key word brought up "success". For communicative success is what Nordtext and its daughter projects such as NORDWRITE are really about. I therefore thought it might be in order for us to contemplate for a moment what communicative success, this strangely elusive concept pursued through millennia by rhetoricians and language teachers, actually involves.

If we search modern linguistics for relevant materials we shall find a family of concepts which I have called "success concepts" because they try to deal with various aspects of communicative success. I am thinking of (1) grammaticality, (2) acceptability, (3) appropriateness, and (4) interpretability.

2. Grammaticality

Throughout the centuries grammarians have known, or claimed to know, what expressions in a language are grammatical and what expressions are not. True, some grammarians have had doubts and admitted that there may be a twilight zone between what is grammatical and what is not, even admitting a scale of grammaticality. More commonly grammarians have accepted the onus of deciding what to approve of, and thus include among their recommendations, if they were grammarians of the recommending kind, and what to reject. On what grounds such decisions have been made is an interesting question. Often a grammarian's approval is ultimately based on social and aesthetic preferences: sentence x sounds educated and attractive, sentence y sounds ugly and would stigmatize its user as vulgar or ignorant, therefore let us say that y is wrong. Sometimes grammarians appeal to logic, as in the famous case of the

English double or multiple negation. Not rarely do they cite analogies in support of their views. Sometimes they appeal to older forms of the language (though some have forgotten that Chaucer lived happily with multiple negation). And sometimes they appeal to norms of other, prestigious languages: we should not talk of a wooden house as dilapidated because Latin *lapis* means 'stone'. If all such attempts at rationalization fail, a grammarian can always close the debate by appealing to his own feeling of correctness and to what he regards as the norms of his own dialect. There is no arguing against *Sprachgefühl*. "In my dialect x is all right" or "in my dialect y is impossible" are arguments to end all arguments.

To trace the balance between these principles of linguistic judgement would mean tracing the entire history of grammar, no less. Let me simply make a shortcut to 1957 when Chomsky's *Syntactic Structures* burst upon the world. For Chomsky's approach compelled a new look at grammaticality. Chomsky's generative rules were supposed to produce all, and only, the grammatical sentences of a language. This assumed that the grammarian could decide what sentences were grammatical and what sentences were not. And, heuristically, such decisions became even more crucial than before because they provided the only way to the testing of grammatical rules. If a rule produced only grammatical sentences it was all right, but if it produced garbage it was wrong and had to be revised. We all know what kinds of debates this view provoked: it was, once again, tempting for a grammarian to refute his critics by simply claiming that in his dialect the sentence in question was all right, or all wrong as the case may have been. Conversely, it was easy to slip into a more ambitious claim: only those sentences were grammatical that were actually produced by a specific generative grammar of the language. The generative format was a potential temptation for normativity: once one succeeded in writing an elegant and economical set of generative rules, it saved a lot of fuss to brush aside breaches against such rules as ungrammatical, even where such breaches were produced by competent speakers. One of the devices for dismissing what did not fit was to brand it as mere performance, as opposed to the competence which it was the linguist's business to look into.

In this way, the term "grammaticality" could be related to grammar rather than anchored in real life. It could be divorced from the communication of people of flesh and blood, from what people really do when they speak and write. To escape the fuzz of the term "grammaticality" (which has sometimes been used to suggest 'what grammarians approve' and sometimes 'what native speakers actually do') we might try to define it in terms of the relation between a sentence, or perhaps utterance, and a specific, existing grammatical description of the language. If, and only if, the grammar approves of an expression, is that expression grammatical in relation to that grammar.

But, notoriously, different grammarians have been known to have different ideas of correctness, of what to approve and what to frown upon. Wars are too important to be left to generals, said Clemenceau; and we might add that languages are too important to be left to grammarians. We must supplement the concept of "grammaticality", in the sense of a relation between an utterance and a grammatical description of its language, with other concepts which bring in more real life into our linguistics and are beyond the reach of linguists' manipulations. Languages do after all exist in a noisy marketplace among much hustle and bustle, rather than within the cleanly confines of a tight fence of rules. Therefore grammaticality needs supplementing.

3. Acceptability

Since the pioneering work of Sir Randolph Quirk and his collaborators at University College London, we have had at our disposal another, precisely definable success concept, namely "acceptability". By acceptability we mean the relation between an expression and a set of judgements produced by a group of informants, a jury if you like. I presume the acceptability studies of the Quirk team are too well known to need further presentation here. The original approach, as you recall, was simply to consult a group of students who could not run away, for instance in connection with a lecture, and make them judge the acceptability of sentences on a three-point form rather like a football-pool slip: undoubtedly OK, doubtful, and undoubtedly wrong. This simple method was gradually refined in various ways. But the approach gives us a useful concept: where grammaticality measures the fit between a sentence and a grammar, acceptability measures the degree to which a group of informants are prepared to accept, or reject, a sentence or an utterance.

As Sir Randolph and his colleagues have carefully noted, such studies raise a number of problems and queries. We know different people speak differently. Northerners differ from Southerners, some labourers from some professors. How can we, in our acceptability studies, be sure that our jurors are a sufficiently homogeneous group? Also, we know that the same person will speak and write differently in different situations. Can we therefore measure acceptability in a contextual vacuum, without paying attention to what kind of person makes the judgements and in what kind of situation? In fact an acceptability judgment presumably presupposes tacit contextualization. What we do when we are asked whether we accept or reject an expression is presumably that we try to imagine situations in which that expression might be used. If we can think of such a situation we accept the expression; if not, we reject it.

4. Appropriateness

To make clear the dependence of acceptability on situation we therefore need yet another, third, concept, situational or contextualized acceptability which we might call appropriateness. We know that certain expressions are accepted as traditional when uttered by a sergeant to an army recruit in his squad or platoon, but that they would cause chagrin if the sergeant tried them on his mother, and scandal if uttered by the sergeant to the Queen who gives him a medal for bravery. The relation between situational context, in the widest sense, and an expression is also the basis of what we call style: our impressions of styles, so I believe, are based on our matching of an emerging expression with our past experiences of language in situations we regard as relevant and comparable. Such expectations can be fulfilled or thwarted in various degrees, and accordingly we experience the style as traditional or as new. And it depends on our culture and personality whether we are classicists by temper and prefer satisfied expectations, or romantics and set a premium on what is new, fresh, surprising and even shocking.

Grammaticality, then, is a matter of arbitration. Acceptability is a matter of data-gathering and statistics on informant behaviour. And appropriateness is a matter of past experience as projected onto the present; it is a matter of temperament, taste and decorum. One of the reasons why literary criticism is an open-ended business is that the criteria of stylistic judgements change with critic and with age. Stylistic fashions have their hemlines as it were: during one period all must be up, during another period all must be down, and sometimes 'maxi' coexists with 'mini' in a spirit of anarchic pluralism.

It goes without saying that appropriateness judgements, being the most subtly subjective of the three types of success measurements I have mentioned so far, are also the most difficult to study and to justify. Literary criticism is full of examples where critics disagree: the Victorians thought Donne was uncouth, T.S. Eliot thought he was superb. It is indeed difficult to think of exact research methods for measuring stylistic acceptability. There are instances, for instance in studies of taboo words or so-called "dirty" words such as those carried out by Magnus Ljung, where you can ask, "Would you use this word to your mother? to your girl friend? to your buddies in the army?" And the study of euphemisms also springs to mind. You probably all recall the often-cited statement allegedly from the *News of the World*: "A girl's dismembered body was found in a trunk in Paddington Station. She had not been interfered with." But these are crude and simple instances. When we go on from taboo, euphemism and single words to more complex syntactic and discoursal devices, judgements of appropriateness get increasingly complex too.

5. Interpretability

These three success concepts - grammaticality, acceptability, appropriateness - still do not cover the entire field of success and failure. They should, I think, be supplemented with at least one further concept, perhaps the most fundamental of them all. I am speaking of comprehensibility or interpretability. Here the operative question is: under what circumstances is an utterance interpretable? As interpretability is by no means irrelevant to students of discourse, I shall try to say a few words about the challenges one will meet when thinking about it.

In trying to define interpretability we are up against various problems. The first is caused by the obvious fact that the interpretability of an utterance is not determined by its grammatical well-formedness alone. In impromptu speech we all produce utterances which work nicely in their situational context but which may horrify and disgust not only grammarians but even ourselves when we see them in an accurate written transcription. Indeed there are many of us who claim that the features of *parole* or 'performance' which syntacticians are in the habit of washing out of their data in fact have important functions in impromptu speech. We must have mechanisms of hesitation, we must have devices that dilute the text to make processing easier for ourselves and our hearers. And we can often profit from formal correspondences, isomorphisms or iconicities, which make texts pictures of the world. One kind of iconic ordering reflects information flow, for instance from old to new information or perhaps vice versa. Another type of iconicity makes us report events in the order in which they took place, unless we choose to mark departures from such 'natural order': *John and Susie had a baby and got married* does not mean the same as *John and Susie got married and had a baby*, but we can mark a mismatch between event order and report order as in *John and Susie had a baby after they had married*. And we must have devices of repentance, repair and correction which enable us to improve what went wrong - spoken equivalents of an eraser as it were. Also there are types of discourse in which a speaker or writer wilfully departs from his ordinary well-formedness patterns, as in modern poetry or in some advertising. And there are situations where an inarticulate grunt is perfectly interpretable: remember me next time your dentist drills into live nerve tissue in a root canal!

Another obvious problem is that every message is, in real life, accompanied by a metamessage (to use a felicitous term which I owe to Deborah Tannen). As a thought experiment, imagine for a moment that I should, here and now, switch into Finnish. Most of you in the audience would be lost as to the referential meaning of my Finnish discourse. But you would all the same regard my strange behaviour as significant and meaningful. You might question my sanity, you might (more charitably) suspect a linguistic demonstration illustrating a point of my talk, and you would probably respond to intonation patterns and paralinguistic features drawing conclusions as to my happiness, anger and other moods (which might easily be wrong because they would be based on extrapolations of patterns from languages other than Finnish).

Such a thought experiment shows that, in authentic communication, the message, the referential core, is always accompanied by a number of circumstances that make us deduce something about the speaker's or writer's behaviour, mental state, attitudes and the like. The linguistic message is surrounded by a set of semiotic codes, in the sense of sets of elements that contrast with other elements. A person's clothes at a certain social function signal something to those observing him, perhaps different things to different people of different generations. "Professors at the Helsinki University of Technology," one of them once told me, "wear suits to faculty meetings except if they are professors of architecture." And one of my younger colleagues at Åbo Akademi, so I am told, has two sets of clothes: tails for academic ceremonies, and jeans for everything else. Clothes, proxemic movement, gesture, paralinguistic features such as loudness and shifts in tempo and non-syntactic features of intonation all bring with them their own metamessages. And in writing we draw conclusions from handwriting, the typography, the quality of the paper and envelope, and the like.

My point is of course that the interpretability of a message does not only consist of effects of the message proper but also of everything conveyed by the metamessage. In learning a foreign language we may have more difficulties with metamessages than with messages proper, particularly if the source and target cultures are very different. We may unwittingly get ourselves into great trouble, for instance by touching the head of a Fijian or by walking into a mosque with our shoes on beside a lady friend in shorts.

What, then, is interpretability? If it is not a function of grammaticality, acceptability and appropriateness, what is it? The best I can do is to shift the burden of the definition from linguistic form and pragmatics into cognition and suggest that a piece of discourse is interpretable to those who can, under the prevailing circumstances, build around that piece of discourse a world in which the discourse makes sense.

Note that I said that a piece of discourse is interpretable only to those who succeed in building a world around it. Interpretability is receptor-sensitive: to some people a piece of discourse can be interpretable and to others not. Interpretability depends on the equipment the interpreter brings to his job. Note also that I said that the interpretability of discourse depends on the prevailing circumstances. We all know that many utterances are interpretable in a certain definite context and become opaque when decontextualized. Finally I hid another problem by saying that we interpret discourse by surrounding it with a world in which it makes sense. There are at least two ways of defining what makes sense. Those devoted to truth-functional semantics might say that a text makes sense if we can surround it with a world in which it might be true ("might be" rather than "is" to allow for fiction). And those devoted to pragmatics might say that a text makes sense if the world of discourse surrounding it conforms to acceptable maxims of human behaviour, such as the Gricean principles, the Sperber-Wilson principles of relevance and the like. Truth-functional semantics thus emphasizes the referential function of discourse, pragmatic comprehension the social and communicative function including the metamessage. There is as far as I can see nothing preventing us from combining truth-functional criteria of interpretability with pragmatic criteria; so far it seems as if few semanticists would have had an outlook sufficiently catholic to put both under one hat, or inside the same skull.

Now how is this relevant to our agenda at NORDTEXT? Both at the theoretical and at the applied levels, I would like to suggest. We are concerned with text comprehension, which is the ultimate problem of all text and discourse linguistics. And on the applied side our job is to find out what makes some texts more successful than others. Would Herbert Spencer and Theodor Fechner perhaps have been right in equating stylistic excellence and textual beauty with what we would today call ease of processing? If the processing and interpretation of a text involves world-building, then how should a text be organized to facilitate such world-building?

To answer such a question we should first try to specify what information consists of. Information consists of an elimination of alternatives. We eliminate alternatives by making explicit, by specifying, the one that holds. And we can specify matters in two ways, either through direct specification or through inference. What in fact is, in each situation, the optimal balance between explicit specification and implicit inference? Another problem following directly from the view of a text as a sequence of eliminations of alternatives has to do with the order in which alternatives are eliminated and new details added to the world of the text. Here we come to what I have called text strategies, that is, to the set of principles a speaker or writer opts for in order to lead his receptor to the proper text world or scenario by eliminating alternatives in a specific order. This order is translated into syntax via information dynamics, that is, via the interplay of old and new information, theme and rheme, topic and focus.

All students of text and discourse must by definition be concerned with text strategies and with the solution of text-strategic problems. And this is done by means of the tactical devices offered by syntax and lexis (and please note the analogy with strategy and tactics in the military sense). A large proportion of the means offered by the lexis and syntax of a language exist precisely to make possible different text strategies, most obviously through the choice between lexical converses (*Susie is Betty's mother* / *Betty is Susie's daughter*), between syntactic structures (*John ate the apples* / *The apples were eaten by John*), and least marked and fronted structures (*I have read this book* / *This book I have read*). It is a highly instructive exercise to browse in a dictionary and a grammar, asking oneself which of the items and structures might serve text strategies by regulating the order in which alternatives are eliminated.

Is, then, an utterance interpretable or uninterpretable in a binary fashion, or is interpretability a scale? I already hinted at the role of metamessages: even those who cannot interpret the message proper, as some of you would have failed to grasp my Finnish, will shift the interpretive burden onto the metamessage and draw conclusions about the speaker's state and purposes. As to the referential contents, as to the message proper, I presume the answer involves an interpretability threshold. Some interpreters remain below the threshold and simply cannot make referential sense of the message: this would be my situation when faced with, say, Turkish. Others may pass the threshold and extract some referential sense out of the text: this would be my situation with a text on, say, nuclear physics in English. I would place the text in a world of discourse on nuclear physics, but I would remain incapable of surrounding it with its proper network of references. A physicist would not only pass the threshold but also climb high, or even to the top if the text was in his area of specialization, of the scale of interpretability. So, the place of the threshold and the degree of interpretability above the threshold depend on an interplay between the receptor, his linguistic prowess, and his familiarity with the subject matter and its world.

A brief *caveat*. One of the problems I have not taken up in this talk has to do with the intricate interplay between bottom-up and top-down processing involving different levels of linguistic structure such as phonology, syntax, and lexis, and the pragmatic aspects of situation. Let me merely repeat that it is possible to succeed in communication, in pragmatics and semantics, despite ill-formed syntactic and phonological structures. Under certain circumstances, higher-level, top-down processes can thus cover up faults in lower-level structuring.

6. Conclusion

As applied linguists interested in discourse, we should now ask ourselves what we can do to improve the world and help our fellow men towards increased successes in discourse comprehension and in appropriate linguistic behaviour. These are, of course, the ultimate problems of all language learning. If the problems gain in clarity after a discussion of success concepts, these concepts have done their job and served us well. Instead of trying to deal with them, let me just make one suggestion. Making all learners achieve native or near-native skills in a foreign language is an impracticable ideal. What we should do is to try to find the optimal goals we can reach within the time and effort at our disposal. Interpretability must rank as the most basic goal of all: what we say should be interpretable, it should reach above the interpretability threshold in the relevant situational context. And appropriateness is the second important goal: what we say should not overstep certain limits of appropriateness, allowing for the tolerance limits set by the situation. Obviously a person with a thick foreign accent will be forgiven trespasses that a person who passes for a native would be punished for. As to acceptability, in spoken discourse, fluency will contribute to discoursal acceptability: a fluent speaker good at using hesitation signals and correction mechanisms and other communication-strategic devices stands a decent chance of covering up her grammatical shortcomings. Actual grammaticality, in the technical sense in which I have used it for the purposes of this talk, may well rank lowest of the success criteria in actual impromptu-speech communication. In writing, the relative importance of the same success criteria may be different. When contemplated at leisure and in cold blood, ungrammaticalities may well diminish the effect, and thus interfere with communication, of a written, and perhaps especially a printed, text. A fluent speaker may receive absolution for sins never forgiven to those who venture into print.

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Reconciling the psychological with the linguistic in accounts of text comprehension

SIMON GARROD

Abstract

This paper explores the problem of reconciling general psychological processing constraints with linguistic constraints on discourse structure. Two types of psychological constraints are identified, the 'immediacy constraint' and the 'limited focussing constraint'. Both are shown to combine with linguistic constraints to determine the pattern of eye-movements during reading in two case studies. The first involves parsing locally ambiguous sentences in a discourse context, the second involves interpreting definite as opposed to indefinite noun-phrases in comparable contexts. The conclusion from this analysis is that the psychological and the linguistic determinates of processing may interact in much more complicated ways than was originally assumed in the early days of psycholinguistics.

1. Introduction

The discipline of psycholinguistics has a short history. It all began with the recognition in the late 1950s that natural language structures were far more complicated and opaque than had previously been assumed. Thus Chomsky's pioneering work in linguistics forced psychologists to confront directly the processing problems facing a language learner or language user. At first, it only seemed a matter of uncovering experimental evidence to confirm the psychological reality of this complex structure. Where clear discrepancies arose between the linguistic theory and the experimental observations these were accounted for in terms of the gap between a supposed abstract competence on the part of the language user and the vagaries of performance. So right from the start there was a recognition that language users are subject to general psychological performance constraints of limited memory and attention that may make their behaviour fall short of the theoretical ideal. For example, infinitely long sentences or even relatively short ones with deep centre embeddings were judged as clearly beyond human processing capacity while not being ruled out in principle by the grammar which we were supposed to hold in our heads.

But this honeymoon between the theoretical linguists and the experimental psychologists was not long lived. As the more detailed aspects of the linguistic theory were subjected to psychological tests, it became apparent that the gap between competence and performance was not to be bridged in terms of straightforward psychological constraints. The immediate consequence of this was a steady dissociation between the concerns of the two disciplines. On the one hand the linguistic analysis became more abstract in relation to issues of language processing and on the other the psycholinguistic work came to reflect more and more the influence of general psychological competences in language processing. So, for instance, there was an increasing interest in the role of general knowledge, something which does not reflect linguistic competence narrowly defined. In turn this led to the view that language processing was really just another, albeit complicated, kind of problem solving of the sort that underlies much human rational behaviour. This divergence between the disciplines is still very much in evidence today. In particular the new 'connectionist' accounts represent an attempt to explain language learning and language processing in terms of powerful distributed processing systems which have no place for linguistic rules (Rumelhart and McClelland, 1986).

However, in this paper I will suggest that some recent work points to the development of a more mature relationship between linguistic analysis and the understanding of psychological process, but it is not such an imperialistic one. The first thing that has to be recognised is that there is a basic difference in the way the two disciplines have come to view what is at issue. The primary goal of the theoretical linguist has been to try and capture the structure of sentences in a general fashion, that is as objects removed from both their physical circumstances of interpretation and more general contexts of use. The psychologist on the other hand is concerned with establishing the details of the cognitive processes which occur when utterances are encountered in real time. So psychological accounts have to reflect the fact that understanding is not a discrete process which only happens after the sentence has been apprehended in full, but rather it is a continuous incremental process occurring as the information presents itself. Neither is comprehension something which happens in a vacuum, it clearly depends upon the state of the comprehension system at that time, and this forces us to take very seriously the role of context. So for the psychologist the linguistic object of investigation is already something quite different, it is both dynamic and contextually situated.

In itself this difference of viewpoint does not mean that linguistic principles of structural analysis have no bearing on the cognitive processes of comprehension, but it does make it less likely that there will be any straightforward connection between the two. So, for instance, what may be the most parsimonious account of sentence structure when the sentence is viewed as a whole and in isolation may not relate directly to the most parsimonious account of the process which has to interpret this structured input sequentially in real time and in a variety of different contexts (Marslen-Wilson and Tyler, 1981). In a similar vein, it may be methodologically more convenient to approach the linguistic analysis of syntactic structure independently of any analysis of the sentence's meaning or of its significance when situated in context, yet from a psychological processing point of view there are good reasons for believing that all of these factors have to be taken into account simultaneously.

The approach which I shall take to the whole issue of how we might reconcile the psychological with the linguistic is therefore, to begin with, a more detailed discussion of what the psychological constraints are, and then consider how they might interact with linguistic form to determine the nature of the process.

2. The nature of psychological constraints in processing

Perhaps the most apparent psychological constraints come from the limitations of immediate memory capacity and attention span which we know to obtain. This means that there is a high cost on holding uninterpreted linguistic input for any length of time. In the first place any new input will compete for memory space and in the second place delaying interpretation risks committing the system to a processing debt which will have to be redeemed later as new information is flowing in and competing for attention. In other words, it is a good principle to match the rate and timing of any interpretation process as closely as possible to the rate and timing at which the input is being sampled, and thereby not risk falling behind the speaker. So one kind of constraint on the processing system concerns the immediacy of interpretation and as a consequence its inevitably sequential incremental nature. I shall refer to this as the 'immediacy constraint'.

A second somewhat different source of constraint, which is not so easy to pin down, comes from the fact that language comprehension is basically a process of mapping linguistic information (sound segments or letters, words, phrases, etc.) onto corresponding knowledge about the significance of this information. Consequently efficient interpretation requires fast access to knowledge which may not be readily retrievable at that moment in the process. This has led to the idea that there is some kind of special dynamic knowledge organisation system to support the immediate processing of expressions whose interpretation depends upon access to knowledge about the context. So, for instance, the immediate interpretation of definite noun-phrases or pronouns which require access to contextual information will be subject to constraints on this knowledge organisation system. I shall call this the 'limited focussing constraint' since it concerns the way in which limited amounts of knowledge may be made differentially accessible over the time course of understanding and so enter or leave the focus of attention.

Both the immediate processing constraint and the limited focussing constraint have important consequences for the way in which we understand text, which will interact with any influences of text structure, and it is only when we appreciate this that any reconciliating between the psychological and the linguistic aspects of processing will be found. In this paper, I discuss two sets of experimental findings which point to the role of structure in processing, and serve as interesting case studies in reconciliation. The first relates to syntactic parsing and the second to the interpretation of definite as opposed to indefinite descriptions.

I begin with a general background discussion of some of the psychological issues which surround the problem of parsing sentences during comprehension. The discussion then turns to how accounts of parsing isolated sentences generalise to comprehension of those same materials situated in more realistic contexts.

3. The immediacy constraint and syntactic parsing

One aspect of language comprehension that has been the subject of much psycholinguistic investigation is the parsing of locally ambiguous sentence fragments such as the following:

(1) Mary took the cheese from the farmer ......

Such a fragment encountered in isolation has two possible readings; in one the prepositional phrase *from the farmer* attaches high in the sentence structure to the verb - it plays the semantic role of source - in the other reading the PP is taken to modify the NP *the cheese* so it attaches low. The thing that makes such structures interesting from a processing point of view is that they only present problems for a system subject to the immediacy constraint, since in most contexts of usage, the fragment will form part of a sentence which is not ambiguous as a whole. For instance it might read:

(2) Mary took the cheese from the farmer instead of from the grocery store.

or

(3) Mary took the cheese from the farmer out of her bag.

In (2) the structure of the sentence as a whole forces the PP to attach to the V as a source argument, while in (3) it must attach to the NP as a postnominal modifier.

A similar consideration applies to sentence fragments like:

(4) The woman rushed to the hospital .....

which might form part of the following:

(5) The woman rushed to the hospital had a beautiful baby boy.

in which the phrase ***rushed to the hospital*** acts as a reduced relative, or

(6) The woman rushed to the hospital to see her sick husband.

where it serves as the main verb of the matrix sentence. Again the sentence fragment in (4) only presents a parsing problem if the system is forced into making an immediate decision about its syntactic role as each word and phrase is encountered.

One possible processing solution might be to track both potential structures until the system encounters a point of clear disambiguation[1]. This would comply with the immediacy constraint while leaving open the options on final interpretation. However, it would fall foul of just the same attentional limitation that motivated the immediacy constraint in the first place, since it means having to attend to two potential interpretations at the same time. Just such deliberations as these, led to the proposal that readers or listeners should initially only track the 'preferred' interpretation of the sentence but be prepared to re-evaluate this interpretation in the face of subsequent evidence to the contrary, the so-called garden path model.

The issue then becomes one of providing a principled account for determining the syntactic preference in any of these situations. One solution, which has been proposed by Frazier and her colleagues, is to assume that the parser, when faced with such a decision always opts to build the simplest structure in the first instance, that is the structure which incorporates the least number of additional syntactic nodes. So among other things it will always promote what is called 'minimal attachment' for any new phrase (Frazier, 1987).

In fact there is now a considerable body of evidence that when such sentences are encountered in isolation, readers behave according to the garden path model and only adopt a 'minimal attachment' interpretation for the postnominals in the first instance. Thus if you track a reader's eye movements as they view a sentence such as (2) or (3) the fixation durations increase dramatically in the disambiguating region for (3) as compared to (2) and there is also a strong tendency for readers to refixate the ambiguous fragment in (3) as compared to (2) (Frazier and Rayner, 1982). The same kind of eye-fixation pattern can be observed in other syntactic environments where there is a contrast between minimal and non-minimal attachment, such as with the reduced relatives.

So here we seem to have a nice example where the processing account reflects in a rather direct way the linguistic analysis of the language. Principles of structural simplicity seem to determine processing options in line with the cognitive constraints. But maybe this is jumping to the conclusion too quickly. After all, as was pointed out earlier, readers do not usually encounter sentences in isolation and it is maybe something about the strangeness of the context-free interpretation which is leading to the pattern of preference rather than syntactic simplicity.

In both example (3) and example (5) the non-preferred reading is the one where the ambiguous fragment plays the role of postnominal modifier for a definite NP. It could be argued that such uses of PPs or reduced relatives are only rhetorically motivated in rather special contexts where they aid the reader or listener in discovering an appropriate referent for the definite description. Thus if the reader knows from the context that there is some referent under the description "cheese from the farmer" or "woman who has been rushed to the hospital" then this might motivate an initial preference for the non-minimal attachment of the postnominal. In other words, it is quite possible that the eye movement results reflect what happens when a reader is presented with the sentence in a default context which does not support resolution of the definite description plus its modifier. If this were the case the fact that the results go along with a model based on preference for simple structure could just be coincidental and an artefact of the rather unnatural circumstances of these experiments.

In order to test this assumption Rayner, Garrod and Perfetti (in press) carried out an eye-tracking experiment designed to pit the discourse level preference for non-minimal attachment in appropriate contexts against the presumed immediate structural preference for minimal attachment. We did this by manipulating the referential context to either maximise the likelihood that the relevant antecedent information was in focus at the time of encountering the critical NP or not. So critical target sentences such as (2) and (3) were preceded by different context passages of the sort shown in Table 1. The non-minimal attachment sentence (3) could be preceded by a focussed antecedent context or a non-focussed antecedent context but in both cases containing an appropriate antecedent for the NP-PP complex, while the minimal attachment sentence (2) would always be preceded with a context consistent with that reading to act as a control.

Table 1.

Materials used in Rayner, Garrod and Perfetti (in press)

PP NMA Context

Mary usually tried to do the week's shopping on a Saturday morning. So she started out by going down the road, where she bought some delicious cheese from the local farmer. %She then went on into the village to the butcher for her meat and poultry, then on to the grocery store to buy vegetables and potatoes. % But today she had forgotten that she was having lunch with her mother and had to bring some food. *She decided to take the cheese from the farmer out of her bag to eat for their lunch.*

PP MA Context

Joan always had trouble choosing the best produce. She was extremely fussy about the quality of the food she bought, and this was a special lunch party that she had arranged. She had just been to the grocery store which had some very fresh looking cheese but wasn't sure if she couldn't do better at the farm. When she arrived there, *she decided to take the cheese from the farmer rather than the grocery store.*

Key. materials in % signs were included in the non-focus conditions and left out in the focus condition. The sentences in italics are the critical target sentences where the fixation durations were measured.

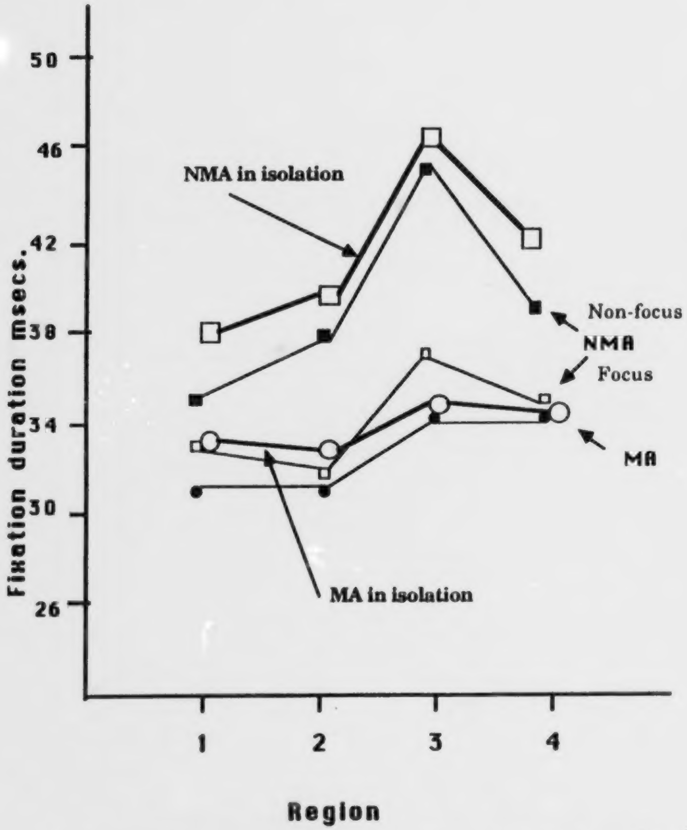
The pattern of eye fixations and regressions turns out to be particularly interesting when the sentences are put in context. First, the total gaze durations are shown in Figure 1 for the four critical regions of the sentences, exemplified below:

(2) Mary took /the cheese/ from the farmer /instead of from/ the grocery store.
1 2 3 4

(3) Mary took /the cheese /from the farmer/ out of her bag./......
1 2 3 4

where these regions are defined as the following (1) is the NP, (2) the ambiguous PP fragment, (3) the disambiguating region and (4) the next region after that.

Figure 1.



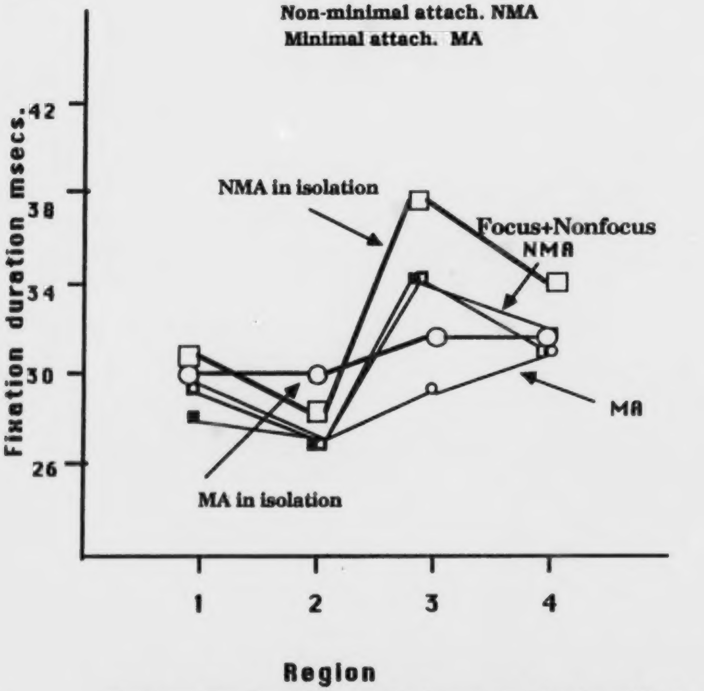
Total eye fixation patterns for the four regions in the critical sentences, when read in isolation and in either the Focus or the Non-Focus context conditions.

Looking first at the thicker lines on the figure we can see the gaze duration effects for sentences like (2) and (3) when read in isolation (MA in isolation and NMA in isolation). These results replicate the earlier findings discussed above. For the non-minimal attachment case readers spend much longer on the disambiguating region (region 3) and regress more often to regions 1 and 2 containing the NP and PP which is reflected in the additional total gaze durations for these regions. However, the interesting result which relates to the alternative account for the minimal attachment effects is a comparison of how the pattern is changed when the sentences are encountered in context. Basically, for total gaze durations the non-minimal attachment sentences with a focussed appropriate antecedent lead to exactly the same pattern as the minimal attachment materials when in context. In other words, the context seems to override the minimal attachment effect for the focussed antecedent cases but not for the unfocussed antecedent ones, where readers behave as if the sentences were in isolation. A similar pattern of results is also found in the analysis of regressive eye-movements, where the non-focussed non-minimal attachment condition yields significantly more regressions from region 3 than either of the other two conditions which do not differ. Furthermore an almost identical picture emerges for the reduced relative sentences also tested in this same experiment.

It would seem therefore that the preference for simple syntactic structure is not necessarily the full explanation of why readers become garden pathed in sentences such as (3) and (5). It could rather come from the referential processing problem of encountering post-nominals in the absence of an appropriate discourse context. However, this alternative explanation proves ultimately wrong in an interesting way and the linguistic explanation, as we shall see, turns out to hold water.

The results which I have discussed so far only reflect the total time readers gaze at each of the critical regions and so may disguise subtle immediate processing effects. We can uncover this by simply plotting the initial gaze durations associated with each region before the eye moves on or regresses back to another region. This data is shown in a comparable way in Figure 2. Here first we can see the immediate effects of reading the sentences in isolation, which are shown in the curves with heavier lines. On first pass reading, the effects of minimal attachment only show in fixations in the disambiguating region and beyond, reflecting the fact that the sentences are of course identical up to this point. But again the really interesting result comes from the comparison between this pattern for MA and NMA (sentences of type 2 versus 3) where on initial fixation the NMA sentences in context behave basically like the sentence in isolation, that is irrespective of the focussing manipulation readers take reliably longer fixating the disambiguating region than they do with the MA sentence.

Figure 2.



First pass fixation times for the four regions in the critical sentences, when read in isolation and in either the Focus or the Non-Focus conditons.

To understand this apparently conflicting set of results, we have to suppose that the syntactic structural preference is still present even when the sentences are encountered in appropriate contexts. However, the results also demonstrate how the reader can recover almost immediately from the initial misinterpretation that this sometimes causes, just so long as the context is supportive in a way that is consistent with the limited focussing constraint. So this pattern of results illustrates quite clearly just how complicated the relation can be between the structure of the language and the way in which we as its fallible human users go about understanding it. Such a conclusion is very far from the simple view that structure dominates the interpretation process. While this may be true for the first few hundred milliseconds, other more context-dependent considerations come into play almost immediately.

My second case study relates to a somewhat different issue which concerns the role of definiteness in triggering special processes of accommodation of a referent into the current discourse model. As a background to the discussion I first want to consider some general findings about how contexts may extend the domain of potential discourse referents and so aid the interpretation of noun-phrases. I will then turn to the question of the extent to which this process is actually triggered by the structural information in the definite noun-phrase.

4. Focussing constraints and interpreting definite reference

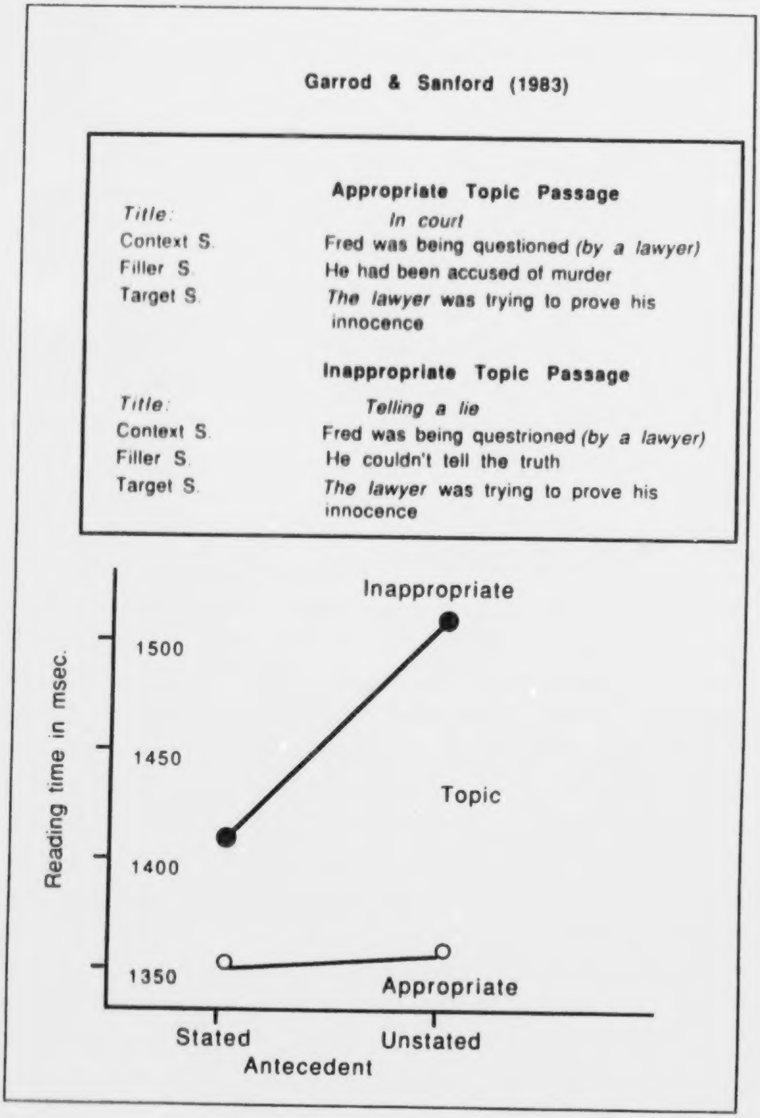
In the standard linguistic literature on reference the paradigm discourse pattern is taken to be one where a discourse referent is introduced in an indefinite description, and then subsequently referred to with a definite (e.g. Heim, 1982). Thus examples such as (9-10) are taken to reflect the norm.

(9) A man was walking down the street in a dream.
(10) The man tripped over his shoe-lace and fell.

However, as Fraurud (1990) has shown this pattern of indefinite introduction and subsequent definite anaphoric reference is in fact relatively rare in actual written discourse. In particular, the normal use of the definite NP is to introduce something which can be readily accommodated into the context. So on a clear night it is quite normal to talk of *the moon* or *the sky* or *the stars*, and even when indefinites are used they rarely introduce referents which will be subsequently referred to with a definite.

This kind of observation led Garrod and Sanford (1981, 1983) to design two experiments aimed at uncovering some of the contextual factors which might lead to the satisfactory accommodation of definite references. The basic rationale behind the studies was to set up either good accommodating contexts or poor ones, and then contrast situations where the referent had been explicitly introduced into the context with those where it was left unmentioned. So, for instance, in one experiment (Garrod and Sanford, 1983) the good contexts might include a passage under the title 'A day in court' which invokes a scenario of a court case affording reference to such characters as *lawyers*, *a judge*, *a defendant* and the like who play well known roles in this particular situation. This would be contrasted with a similar passage but under the title 'Telling a lie' which would not normally evoke the court case scenario (see Figure 3 for example materials). The critical contrast was then made by having in each passage either an explicitly mentioned antecedent lawyer or not and the measure taken was to record the overall reading time for a subsequent target sentence containing a definite reference to *the lawyer*. The pattern of results is shown in Figure 3. As expected, we found that readers were just as quick to accommodate a first reference to the lawyer in cases with no antecedent mention as they were in cases where an antecedent had been introduced, but only when the passage clearly evoked an appropriate scenario.

Figure 3.



Garrod & Sanford (1983)

	Appropriate Topic Passage
Title:	*In court*
Context S.	Fred was being questioned *(by a lawyer)*
Filler S.	He had been accused of murder
Target S.	*The lawyer* was trying to prove his innocence

	Inappropriate Topic Passage
Title:	*Telling a lie*
Context S.	Fred was being questrioned *(by a lawyer)*
Filler S.	He couldn't tell the truth
Target S.	*The lawyer* was trying to prove his innocence

Inappropriate
Reading time in msec.
1500
1450
1400
1350
Topic
Appropriate
Stated
Unstated
Antecedent

So this study suggested that the domain of potential reference for definite NPs could be extended as a result of the readers general knowledge of the situation evoked. A further related experiment suggested that the extended domain of reference was however limited, or, in relation to the discussion in the introduction, subject to the limited focussing constraint. This study (Garrod and Sanford, 1981) used verbs which restrict their implied instruments, such as the verb *drive* which restricts its instrument to being some form of vehicle. Thus contrasting context passages were developed, as in (8-9) below, for a subsequent target sentence containing a reference to the instrument (10).

(8) Keith *drove* to London.
(9) Keith *took* his car to London.
(10) *The car* kept overheating.

As in the previous study, it was expected that readers would encounter no special problem in interpreting the antecedentless definite description in (10) following (8) as opposed to (9). In fact this result was observed in the reading times. However, there was also an additional manipulation in which the reference to the car in (10) was replaced with a reference to a part of the car, namely *the engine*, and with materials like this readers did take much longer interpreting the sentence in the absence of an explicitly mentioned antecedent.

The second study therefore suggests two things, first that having a context which introduces restricted antecedent roles such as *the vehicle used to drive* does not have quite the same effect as contexts which explicitly introduce the referent itself. In other words, our interpretation of the text does represent in a rather special way those things that the writer has chosen to focus on explicitly as opposed to merely imply. The second thing is that the context sets up a rather strict restriction on the role, that is only references which exactly fulfil the restrictions of the role seem to be accommodated. Thus knowing that someone is *driving* somewhere is sufficient to enable us to establish what role a car would be playing but not to establish the role of the *engine* in the car.

However, in the context of the present discussion it could be argued that these results may have little to do with the linguistic structure of the text. It is generally accepted that contexts may serve the function of priming a reader, so enabling faster word recognition irrespective of the syntactic environment. In other words, it could be that reading about a court case or someone taking a drive may be sufficient to prime any analysis of words such as *lawyer* in the former case or *car* in the latter. The trouble is that overall reading time for the critical sentences will among other things reflect just such generalised priming of the words in the sentence. Clearly, if limited focussing on the potential roles afforded by a context is playing a proper part in the interpretation of definite descriptions, it must be shown that the effects are especially associated with understanding definite references.

For this reason Garrod, O'Brien, Morris and Rayner (1990) designed an eye-tracking study to investigate the immediate effects of contextual restriction on definite as opposed to indefinite descriptions. The materials were somewhat different from those used in Garrod and Sanford (1981) in that they always contained a potential antecedent for the critical NP, but in half the cases it did not lexically match the subsequent reference. For instance, in the example shown in Table 2 with a reference to *knife* the text antecedent could either be introduced as *weapon* (non-matching) or *knife* (matching). However, in half the cases it was the instrument to a restricting verb (*stab*) and in the other half a non-restricting verb (*assault*). So in line with the previous study we might expect that in a restricting context the reader should have no trouble accommodating the reference to *knife* irrespective of the presence of a lexically matching antecedent, but encounter problems when neither the antecedent matched nor the verb was restricting. As a final manipulation, the syntactic environment of the second mention was manipulated, so *knife* could either occur as part of a definite or indefinite description. This final manipulation therefore gives a direct test of the linguistic input to any process which takes account of the contextual restriction. If these results only reflect a rather generalised priming effect, they should be insensitive to the syntactic environment of the target item; if they reflect the operation of a special 'reference' analysis process associated with definiteness, they should be sensitive.

Table 2.

Materials in Garrod, O'Brien,Morris and Rayner (1990)

All the mugger wanted was to steal the woman's money. But when she screamed, he **[stabbed] [assaulted]** her with his **(knife/weapon)** in an attempt to quieten her down. He looked to see if anyone had seen him. He threw **{the} {a}** knife into the bushes , took her money, and ran away.

Factors manipulated:

(1) Restricting versus non-restricting context for the antecedent. (i.e. **stabbed v. assaulted**)

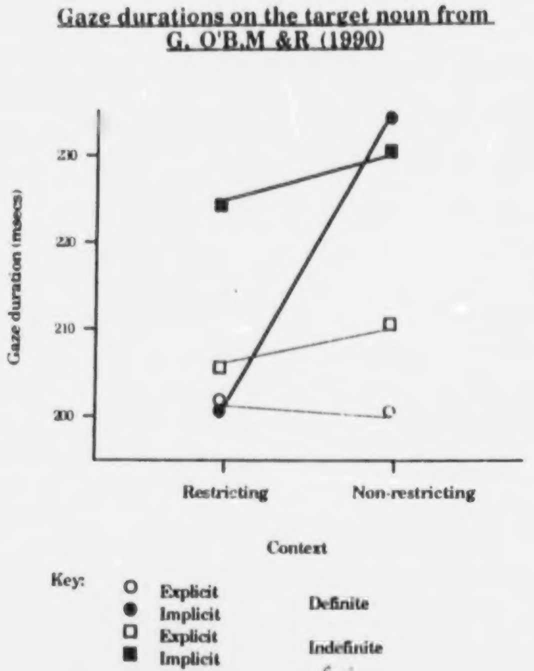
(2) Explicitly matching antecedent for the target noun knife. (i.e. **knife v. weapon**)

(3) Target in definite or indefinite NP. (i.e. **a— v the-----**)

The test comes from looking at the average time readers fixate the critical noun (e.g. *knife*) under all of these conditions, and the results are shown in Figure 4. Considering first the non-restricting context it is apparent that the definiteness contrast has no effect on fixation duration. If a knife has been introduced into the context and then the term knife is encountered subsequently in either a definite or indefinite NP, there seems to be a generalised priming effect for reading the second mention. However, the evidence from the restricting context condition does support the operation of a special reference analysis process aimed at accommodating the reference into the context. In this situation having a restricting context alone is quite sufficient for the reader to immediately accommodate the definite reference (i.e. there is absolutely no difference in fixations as a function of lexical matching with the antecedent). However, when the second mention is in an indefinite NP, the contextual restriction gives no advantage to reading the noun.

So the results from this study go some way towards delimiting the contribution of the general psychological competences such as generalised contextual priming to the structure-driven processing of language. Clearly there is a general effect of priming operating here associated with repeating a word, but that effect is not sufficient to account for the more linguistically driven process of accommodating a definite reference into the context.

Figure 4.



5. Conclusion

This paper started out with some rather general considerations about the problem of reconciling psychological accounts of discourse processing with linguistic accounts of the structure of the language. From the outset, it was recognised that there are a number of psychological processing constraints that are very much at variance with how the linguist has tended to approach the task of describing linguistic structure. The first of these I dubbed the 'immediacy constraint', which puts a premium on incremental left to right interpretation. The second less well defined constraint was what I dubbed the 'limited focussing constraint', which imposes limits on what can be considered relevant background information which the processor may have ready access to.

The two case studies which I briefly described have some bearing on both of these constraints. In the first one, parsing can be seen as a problem of how to reconcile partial structural ambiguity with immediacy in processing. The human parsing solution that is suggested by the data reported here is certainly ingenious. It seems that the system is, in the first instance, responsive to structural features of the input, opting to follow the simplest structural alternative. However, as we also observed, when such sentences are encountered in appropriate contexts, the system seems to be capable of recovering from the garden path almost immediately, but only within the limits of focussing constraints which affect the reader's ability to recover the necessary contextal information. So both immediacy and limited focussing play an important role in parsing.

The second case study explored the role of syntactic marking of the noun-phrase in the immediate processing of definite descriptions. Here the central issue was the extent to which a general psychological competence associated with 'priming' of the sort underlying many cognitive activities might account for accommodation of definite references. This is of some importance in the light of recent demonstrations that 'connectionists' non-rule based association systems may be able to account for much of human language processing. If this were the case, then such things as resolving reference might be processes which reflect a general psychological competence for establishing associations between related events. The alternative is that it is a rule-governed process conditioned by the structural form of the input. In the syntactic environment of a definite noun-phrase the noun should be accommodated into the context in a way quite different from when in an indefinite syntactic environment. The overall conclusion from this set of studies was that while lexical priming was in evidence it could not account for the subtler effects of contextual restriction which only come to light when processing definite noun-phrases.

What both case studies show is how it is possible to reconcile the psychological with the linguistic in accounts of language processing. But at the same time we have to be sensitive to the fact that any efficient process has to satisfy a number of constraints both psychological and linguistic, and *a priori* there is no good reason for imagining that any of these constraints will dominate.

Note 1. This is the solution adopted in computational linguistics in the use of chart parsers.

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Particles as fundaments of discourse structuring

M.M.JOCELYNE FERNANDEZ-VEST

Abstract

Apparently a category of peripheral linguistic elements, Discourse Particles (DIPs) are at the core of the present preoccupations of text linguistics for at least three reasons. A serious study of DIPs has to be founded on the analysis of orality in its two main dimensions : ***oral communication*** *in its ordinary functioning, but also its expression ritualised by the* ***oral tradition*** *of cultures which do not have a writing system. The association of the two dimensions emphasizes the importance of a solid theory and methodology within discourse analysis. The distinction between the morphosyntactic and the enunciative levels stated here as a prerequisite enables us to observe the central role played by DIPs in the process of discourse structuring. Examples from Finno-Ugric languages with an oral tradition (the Sami language) as well as of Indo-European languages with a long standing written tradition (cf. the use of DIPs in lexical research in spoken French) are examined. A dichotomic classification between particles proper (DIPs "in their own right") and particles "by extension" proves to be operational for a comparison in* ***external contrastivity*** *(examples taken from bilingual discourses within mixed French-Finnish families) as well as* ***internal contrastivity*** *(see the reduction and semantic fixation of the DIPs when oral languages become written).*

1. Introduction

Under the harmless appearance of a category of peripheral linguistic elements, difficult to classify and even to denominate, "**particles**" are in fact situated at the core of the current preoccupations of linguistics in general and of **text linguistics** in particular. This for at least three reasons.

1.1.

Although linguists have since the beginnings of modern linguistics, already at the time of European comparativism in the 19th century, and still more clearly at the time of classical structuralism, recognized or even proclaimed the **primacy of the oral language**, still relatively few significant studies have been devoted to this domain of language expression. A serious study of particles has to be founded essentially, even though not exclusively, on the analysis of **orality** in its two main dimensions. The materials (corpora) providing the examples used for the demonstration will optimally have to take into account **two dimensions of orality** which should not be confused : on the one hand, **oral communication** in its ordinary functioning (nowadays treated under the labels of "discourse", "conversation" or even, from a more theoretic point of view, "enunciation"), this "**impromptu speech**" which Östman (1982) coined as "symbiotically related" to the particles, and on the other hand, the **oral tradition** represented by cultures which do not have a writing system ("orature"?). The interest of this double approach also lies in the association of two dimensions that are generally kept apart by specialists. **Pragmatics** and **sociolinguistics** are thus applied to the analysis of widely used languages and urban societies, whereas **ethnolinguistics** and **anthropological linguistics** confine themselves to the observation of languages with an oral tradition transmitted within extra-European agrarian communities.

1.2.

As a consequence of this first point, the choice of these small elements called "particles" also hinges on one of the domains most actively promoted by linguistic research as well as by language teaching during the last ten years: with the expansion of the so-called connexe sciences (pragmatics, socio- and psycholinguistics), **discourse analyses**.

As a reaction against the undisciplined expansion of the domain, this study will aim at defining and delimiting as closely as possible its object and methods. The approach is indeed **textual**, which implies that it subordinates the analysis of utterances (or sentences) to that of the ***discursive whole***, but it does not imply, in our view, and contrary to a trend which is dominant today, automatically favour para- and extralinguistic factors to the detriment of forms and structures. Let us note though that **prosody** (intonation, pause, rhythm, tempo), indispensable as it is in interpreting oral phenomena, is for us an integral part of the linguistic structure - unlike for certain schools of structuralist obedience. As another implication of our initial choices (orality and discourse), the present analysis will state the relation of **interlocution** as primary; the collected corpora will be mainly **dialogical**; the theory under elaboration is based upon the definition of a minimal utterance which is **communicative** in nature. This utterance takes the form of a short utterance, with a single constituent - most often a "predicate" in syntactic terms -, which carries a falling intonation, i.e. an intonation charged with marking the "Rheme", in semantic or enunciative terms (cf. Fernandez 1987a: 581-584.).

In other words, this analysis states as a prerequisite a distinction between the **morphosyntactic** and the **enunciative** levels (following the theories of the Prague School, as well as those of certain well-known linguists in the French-speaking world, such as Hagège, 1982, 1985, and Lazard, 1979).

1.3.

The discursive activity mentioned above will be described in the context of **language contact**. The study concerns **Contrastive Linguistics**, another essential component of General Linguistics, as well as the problem of multilingualism and the evolution of minority languages, especially in a European context (we shall refer to the status and functioning of the "**interlanguage**" of migrants for instance).

2. Why discursive particles ? (DIPs)

DIPs (I call them PENs for "Particules Enonciatives" in French, let us call them DIPs in English) were until recently the ***persona non grata*** of stylistic, grammatical and even linguistic description. Often qualified as "fillers" ("empty/expletive"), they are the first to be cut from edited texts - i.e corrected texts. One can provide many examples of this, taken from grammar books as well as from modern works that claim the natural style of recorded interviews. But in impromptu speech these particles are **numerous** (English "well", "say", "like", I guess", "I mean", "you know") - which we have been able to verify by comparing the published texts with their original recordings. It does not therefore seem irrelevant to devote a monograph to particles, to rehabilitate them in their natural functioning, and thus to determine their precise grammatical functioning. The poor representation of particles in pedagogical works is due to this double difficulty: difficulty of the **gloss** (how can one verbalize a meaning which is directly linked to the context?) as well as difficulty of **translation** (DIPs are generally lacking in language handbooks).

Our ***choice of terminology*** among the multitude of variants met in modern discourse analyses ("punctuators", "modal/sentence adverbs", "connectors", "gambits", etc.) is justified by our concern to emphasize the **contradiction** inherent in these elements: they have little phonic and syntactic weight (short words, often monosyllabic, further reduced by colloquial pronunciation; fluctuating classification in the grammars), yet they are essential for the functioning of discourse. This explains our concern to associate "Particle" and a concept referring to a field which is central in linguistic research nowadays: enunciation. (**Enunciation**, a French variant of "Pragmatics", has the same historical origins - grammar but above all rhetoric (from Aristotle to Perelman, 1970) and certain philosophical schools (from Hegel's phenomenology to the philosophers of "ordinary language", Austin, Strawson, Searle). The enunciative standpoint, which is a reaction against extensional logic and structural linguistics, tends to reintegrate the **subject** into the system of the language itself. This integration, which relies upon certain explicit **subjective categories** (person, deixis, modality - see Benveniste, 1970), aims at locating the traces of language **operations** in discourse. The enunciative approach is thus also a denial of the famous dichotomies (between "langue/parole" and "competence/performance"). The enunciative theories are not homogeneous, but they have in common a certain **conception of semantics**: **solutions of continuity** are preferred to clear-cut dichotomies, and particular attention is paid to the diversity of realisations of a single category. Emphasis is given to **semantic shift** rather than to "discrete unities", **glides** between central and secondary values (Culioli, 1975-76, Pottier 1974, 1987) - for a comparison between text linguistics and French enunciative theories, see Fernandez (1988).)

3. DIPs and the construction of discourse

The systematic study of these particles in oral material, taken at first from the only indigenous Fenno-Scandinavian language which, until recently, was **exclusively oral** (a unified orthography was adopted in 1979), **Sami** ("Lappish"), allows us to state some of the universal tendencies of particles:

3.1.

Particles show the **concomitance of elaboration and production**, the primary characteristics of oral discourse. These particles build up the syntactic units into a spoken **chain of rhythmic units**. It is a way for the speaker to **scan** the progress of his thought. (A comparable use of the particles can be observed in the traditional northern **yoik**.) An example of a categorical negative response (answer of "confirmation of invalidation" - according to our typology, Fernandez, 1987a : 390-531) in Sami :

(1) (Q. - So you have been telling a lot of lies to this old man ?)
- In dal gielistan in leat gal in fal in álgage.
I not (neg.v.) sure (DIP) lied I not (neg.v.) have certainly (DIP) I not (neg.v.) only (DIP) I not (neg.v.) the beginning+even (DIP)
"Oh no I have not lied, certainly not, I simply have not, I have not even tried to."

3.2.

Consequently, the role of **structuring** of the particles is decisive: if the response-utterance does not contain any particle, or contains a limited number of particles of a standard nature (such as "Yes/of course/indeed"), the sequence will most often be modelled upon that of the question. On the other hand, the presence of numerous particles brings about a redistribution of the rhythmic units, i.e. of the order of constituents, for example in Sami :

(2) (Q. - Was there very little money at that time or ?)
- Na gal dat uhccán leai dalle dan áigge ruhta
open. DIP affirm.DIP DIP little was then (adv.) at that time money (nom.)
"Well yes sure there was very little then at that time money".

As to the **semantic** value of the particles, one can easily show through the comparison of examples borrowed from diverse languages that these particles lack an individual meaning: their informative value in **interlocution** (complicity, connivance, hierarchical differences between partners ...), in **modalisation** of the utterance, and even in the subtle question of **affectivity** within language (the speaker suggests an implication, refutes a presupposition, manifests his attitude or his judgement without explicitly verbalising), emerges clearly from the confrontation of varied situations of enunciation. One need only refer to the **bibliography** edited by Weydt and Ehlers (1987) to see the impressive number of studies devoted to these "**modalpartikeln**" (in Weydt's research group's terms) from the point of view of **interaction**.

At the **enunciative** level, the functioning of articles forces us to make an incursion into the controversial domain of thematisation. We know today, thanks to the proliferation of studies of diverse languages, what the **main devices** are for thematising an utterance, which I list here briefly:

In the Theme/Rheme opposition, **intonation** is a universal feature, always present; focalisation and emphasis are accompanied by an **accent of intensity**, distinct from the sentence accent. The other devices of thematisation available are:

- elements traditionally considered as prepositional or prepositional locutions (Germ. **betreffs**, Engl. **as for**, Fr. **quant à**); suffixes; discontinuate structures; morphological changes; changes of word order;
- ***particles***: Japanese (**wa**), Korean, Tongan, Thai, etc. have been specially studied.

4. Particles and textual linguistics

From the point of view of text linguistics, there are two kinds of particles which are of special interest:

4.1. The particles "proper" (or DIPs "in their own right")

On the one hand we have the DIPs that, sharing neither phonological nor morphological identity with any other elements of the language, fulfil exclusively the function of structuring the discursive flow. The richness of a language in particles of this type (as in the case of Sami, in which many of these Particles are grammaticalised) can be considered as the corollary of a **long oral tradition**. You have in (3) an extract from a dialogue between two old Sami informants - with a competence totally untouched by schooling.

(3) **a - (AUL) Man GUHKKI dás dáppe dohko du báikái Bá** osii **/ die átgo olu / dáppe girkobáikkes ?**
b - (JAG) Goal mo bat dal dat lea ? Galhan dat lea vissa .... beannot miilla vai .... gal dat guokte miilla lea gal .
c - Eambbo dat gal lea.
d - Gal dat liikká lea eambbo ga .
e - Ammal .. ammal jo VIHTTA miilla gal lea dákko Deatnorái.
f - I LEAT ban nu .. I DAT leat nu. Go i leat vihtta miilla na .... Gal dat dohko .. dál dohko Nuvvosii gal lea vihtta.
g - Já. (...)

a - *Quelle distance* y a-t-il d'ici précisément à là-bas à ton domicile à Báos/*sais-tu* combien/depuis ici depuis le bourg ?
b - *Combien peut-il bien* y avoir ? *Ah oui pour sûr* il y a *sans doute* .... un mille et demi *ou alors* .... oui il y a *bien* deux milles *sûrement* .
c - Plus il y a *sûremen* .
d - C'est vrai il y a *quand même* plus *sûremen* .
e - *Peut-être bien* .. *peut-être bien* CINQ milles *oui* il y a depuis ici le long du Deatnu.
f - AH NON alors là .. *Ah ÇA non* alors. Puisqu'il n'y a *pas* cinq milles *enfin* .... *C'est vrai* jusque là-bas .. maintenant jusque là-bas à Nuvvos *oui* il y en a cinq.
g - *Ah bon*. (...)
(From the French translation of the extensive text, cf. Fernandez, 1987a: 585-589)

In this dialogue, even though the collaboration between partners comes out essentially from the quick changing of Q and A, the Q and A seldom have a specific shape, and they appear as variants of **assertive** utterances. This results from the dominating role played by the enunciative particles, 44 DIPs for 16 turns, the DIPs assuming the structuring as well as the cohesion of the discourse. The basic meaning of this discourse, which is aimed at the evaluation of a distance, could not even come through, in spite of a multitude of deictic adverbs, without being framed and carried forward by the DIPs.

A comparison of the DIPs in the three main languages spoken in Finland, Sami, Finnish and Swedish, made evident that Sami is the most flexible of the three (cf.

Fernandez, 1986, 1987a: 599-603). The DIPs are criteria for the evaluation of the **degree of orality** of the three languages, not only because of their quantitative superiority. It is definitely the **qualitative difference** between the DIPs in Sami as opposed to those in Finnish and Swedish which is the main **trace left in synchrony** by a diachronically codified oral expression.

One could be tempted, on the basis of the descriptions of various oral languages, to distinguish a class of "**demarcatives**". From a theoretical point of view, the phenomenon would be extremely interesting if it could be proved to be used in most languages: it would be one of the best definitions available of the sentence. But things are more complex, as these particles rarely seem to be neutral (they often have an interrogative or modal value, as in Chinese for instance). The most obvious type of demarcative seems to be in fact a **correlative** of subordinate clauses: it is found in Indo-European languages (Germ. **so, dann**, Fr. **alors** after condition) as well as in various African and Amerindian languages (e.g. in Ewe in Togo and Ghana, in Wayâpi in French Guyana, cf. Feuillet, 1988: 213 ff.).

A kind of correlative/demarcative has also been noticed in the Sami language: the particle **de**, very frequent at the beginning of a minimal affirmative response, is even found at the beginning of a main clause in an "elaborate" response, after a circumstancial clause (generally causal or temporal), as for example in:

(4)	Q.	- Die átgo Do you know ? *Th*	↑	- R.	De die án Yes I know. *Rh*	ᛉ
		- Go leat gullan *Th* When you have heard	↑		de die át *Rh* (then) you will know.	ᛉ

This parallelism of use emphasises the **informative analogy** betwen the two constructions (in spite of their syntactical difference): in the binary syntactic-prosodical structure **subordinate clause + main clause** as well as in the pair **Q + R** the element introduced by the particle has a function of **Rheme** (Fernandez, 1987a: 563).

4.2. Particles "by extension"

These particles can be identified as other parts of discourse (circumstancial adverbs, personal and demonstrative pronouns mostly): they appear as their "**desemanticised**" variant. This brings us back to a central question in linguistics, i.e. the progressive **demotivation of lexemes** as a natural process in the creation of **cohesive operators**. It can even be shown in several languages that some complements of place/time/manner gradually lose their meaning and become mere binding conjunctions. Some of the syntagms or phrases functioning as discursive particles have recently been studied in Swedish by Aijmer (1985, **vaghetsmarkörer** - "markers of vagueness)" and Saari (1984, **förstår du, ser du**, "you see", etc.).

As for **French**, it is especially from the angle of "**paraphrastic reformulation**" (Gülich and Kotschi, 1983), and from the point of view of "**discursive and metadiscursive punctuation**" (Winther, 1985) that these markers have been studied. The latest book by Moeschler (1989) contains several chapters about **connectors**, several methods of analysis are proposed: enunciative/structural/functional/ inferential. One can also mention the growing importance given to the particles by theoreticians of **formal linguistics** (Culioli's metalinguistic operations) and **logico-discursive linguistics** (Ducrot and his well-known polyphony).

The theorisation of these questions nowadays takes advantage of many innovative works within and about the French-speaking world at large ("**francophonie**"), for instance Canadian research on regional French (at the Universities of Montreal and Laval, a Ph.D. thesis was presented a couple of years ago by Diane Vincent upon "Punctuators in Quebec French"), and also benefits from European research on the **interlanguage of migrants** (a project originally sponsored by the European Science Foundation) - cf. Perdue (ed., 1986).

Confronted as we were with the problem within a project about the bilingualism and/or interlanguage of French-Finnish families, we naturally met the alternative offered to the linguist specializing in oral syntax, and formulated thus by N.E. Enkvist:

> - should [the linguist] actually try to write a special description - grammar - covering all the structures he finds on the surface of his impromptu texts ? (...)
> - should he rather derive the deviant patterns by special transfer rules out of well-formed sentences ? (Introduction, Enkvist, ed., 1982)

I personally chose to test some of the methods of analysis developed by one of the few French syntacticians engaged in research on spoken language, i.e. the **GARS** (Groupe Aixois de Recherche en Syntaxe, Univ. of Provence), and specially by its director, Claire Blanche-Benveniste. Different investigations were carried out into the phenomenon of so called "**Listing**" (i.e. a lexical inventory commonly known as "spluttering", Fr. "bafouillage"), a phenomenon so common in spoken language that we felt that some status backed up by a coherent syntactic theory should be given to it. These works gave us the opportunity to observe once again the **structuring role of particles.**

The original hypothesis stated by the GARS researchers was that there must exist a relation between the syntactic structures and the phenomena of repetition-hesitation, apparently unpredictable but universally used. The aim was in other words to verify that **"spluttering" is, partly at least, regulated by grammar.** The method is to convert the text into syntactically analysable sequences, not by modifying the produced text, but by drawing some of the occurrences out of the syntagmatic axis. This "listing" happens within a paradigmatic class, and one will leave on the syntagmatic axis only the elements actually linked by syntagmatic dependencies. The graphic representation thus, besides facilitating the reading of the transcription, is itself the first stage of the analysis: it shows where the text is at a standstill and where it goes forth (Blanche-Benveniste, 1987, 1989).

I will now go through some of the examples taken from our contrastive project. The central role of the DIPs, connected thus with a search for words, emerges clearly in the construction of **synonymy**:

(5) - **Et puis avec l'habitude /**
bon ben avec le temps .... **on s'y fait.** (DOF15, 2)
- And then with habit/ well you know with time .... one gets used to it

DIPs also participate in the interactive search for **precision**, often connected with self-correction, as for example in:

(6) - **C'est pas .. c'est pas vraiment/....** comment dire ? .. **tehokas.** >>**C'est pas .. (- efficace) EFFICACE voilà. C'est pas cent pour cent quoi.** (DOF6B,4)
- It's not .. it's not really/.... how could I say ? .. tehokas.>>It's not .. (- efficient). EFFICIENT that's it. It's not a hundred per cent I mean.

(7) - **D'abord dans les les champs. Ensuite ... Dans les champs/oui dans/pas dans les chants "A-a" (chante) mais dans les champs oui dans ... (- non non dans l'agriculture È ....) Dans l'agriculture voilà. A ramasser des patates quoi ! (rient)** (DOF6, 3)
- First in the the fields. Then .... In the fields/ yes in/not in the songs* "A-a" (*sings*) but in the fields yes in .... (- oh no in agriculture.....) In agriculture that's it. Picking up spuds I mean ! *(they laugh)*
* Fr. "champ/chant", homonyms, "field/song", respectively.

DIPs intervene also to underline the **effects** of Listing, which can be a so-called **"lexical break"**, i.e. the apparent failure which finds expression in explicit interrogations about the lexical filling, or even in a **lexical void** marked by "comment dirais-je ?"/"comment ça s'appelle ?" (how could I say/what was it called again ?) - or even by "je sais pas" (I don't know). These expressions will, or will not, according to different contextual factors, be interpreted as direct appeals to the addressee. For example:

(8) - **et ça m'avait déjà donné quand même une .. une idée/je sais pas/quelque chose de France. Et je ne sais pas si c'est à/à cause de ça que j'ai choisi** () (DOF8,3)
- and it had already given me anyway an .. an idea/I don't know/something from France. And I don't know whether it was/it was because of that I chose ()

At the outcome of this search, the speaker tends to **validate** (or **invalidate**) the results: this happens through particles of modalisation - "enfin/c'est sûr/oui/non" (well/ sure/yes/no), as in the following example:

(9) - **la communauté ORTHODOXE .. enfin le .. oui/la paroisse/la communauté È .... orthodoxe essaie de/de de faire son possible** (DOF6,9)
- the ORTHODOX community .. well the .. yes/the parish/the orthodox .... community tries to/tries to to do its best

The **affinity** initially presupposed between the constructed elements and the "spluttering" has been verified through several types of comparison, for instance between prepositions/conjunctions in their constructed/vs. associated use respectively, for instance "comme", "pour" (as, as for), for example in:

(10) - **elle l'a re .. ressenti /un peu comme/un peu beaucoup hein comme un milieu SNOB** (DOF6,16)
- she felt that it was /a bit of a/a bit well quite a bit of a SNOBBISH environment

What about **external contrastivity**, with Finnish in this case ? The main difference proves to be the rarity of "listings" (lexical inventories) without junctors: in Finnish the internal organization of an enumerative list implies several **että** "that" and **ja** "and", as in:

(11) - **selvä ett nainen nainenhan aina .... josutaa ja liikkuu ja .... jättää työnsä jättää kaikki ja** *(rit)* **lähtee.** (DOF4B,5)
- clear that woman woman sure always .... hurries and moves and .... leaves her job leaves everything and (laughs) goes away

One finds also so-called "bribes en amorce" (the repetition of the first constituent in a NP or VP , "priming fragment" ?) but generally with a transition operated by the Particle, as in

(12) - **Se tuo sehän tuo hyviä asioita** (DOF3B,5)
- It brings it brings you know good things

The role of DIPs for organizing the search in synonymy is specially evident, as for example in:

(13) - **Joo kyll se tuntu se tuntu __niinku__ OUDOLTA siis se tuntu keinotekoselta** *(DOF4B,2)*
- Yeah yes it feels it feels __like__ STRANGE __thus__ it feels artificial

The real degree of affinity between "constructed" elements and "spluttering" is difficult to evaluate because of these multiple delaying (stalling ?) processes which seem to function more mechanically without junctors than the French listings. But the affinity comes out in several syntagms, for instance the "local cases": there will often be spluttering when the case is constructed by the verb, as in

(14) - **me tavattiin __tota__/.. me tavattiin Kööpenhaaminassa** (DOF6B,7)
- we met __well__/.. we met in Copenhagen

5. DIPs in oral vs. written language

As for a textual approach to the functioning of the DIPs in oral and written language respectively, I shall essentially suggest two directions for research.

5.1. The functioning of DIPs when an oral language becomes written.

The **Sami** language has been a privileged field for this type of observation as well. With the implantation of a unified language in that quickly changing society (the children are nowadays provided with schooling in their 1st language, a written literature is developing, gaining more and more independence from the oral tradition), during the last ten years one has been able to observe a gradual transformation of the role of the DIPs. Their number tends to be reduced, their meaning tends to be limited to marginal values. An interesting chapter in this respect is the use of the particles made by the writers of this "young" literature, a compromise between the traditional and the modern use. In (15) and (16) you find two examples of this: one from poetry, from the trilogy by N.A. Valkeapää, published in Swedish in 1987, and one from prose, from the novel by J.A. Vest, published in Norwegian in 1989. The Scandinavian translations and even more so the French ones show the difficulties of transferring the values into other languages.

While there are only a few examples in the poems in which the Swedish and not the French version has had to leave out the DIPs (ex. Sa. **Dathan gal leat olu/dat dagut ....**; Sw. **Många är/de gärningar** ...; Fr. **__Certes__ ils ne manquent pas/les actes ...**), there are a great many in which the enunciative modality carried by the Sami DIPs has simply been wiped out by the French, but has been partially rendered by the Swedish, as for example in (15):

(15) **Sa. Jápmin ja riegádeapmi**
Dathan leat olbmo
deháleamosássit

Jus eallimis ii huma

Ja máidba das hupmat
dathan lea nu árgabeaivválas

Sw. Döden och födelsen
Människans viktigaste stunder
Om man inte talar om livet

Vad då tala om
det är ju så alldagligt

Fr. Mort et naissance
voilà bien l'essentiel pour l'homme
A moins de parler de la vie

Mais pourquoi en parler
c'est si trivial le quotidien

Here the first part of the Swedish text was preferred to be left free of particles (its neutrality emphasizes the generality of a serious assertion), but in the second part the pair "**då/ju**" in the Question-Response pair works perfectly as an equivalent of the Sami.

The prose test is still more convincing: within three turns, the quantitative difference is more than double - 12 DIPS in the Sami dialogue, 5 or less in the other two.

(16) **Sa. Jos eadni geahccalii skuldot, de áhcci lávii álo bealustit iezas seammaláhkai.**
- Iezahan dal álge. In dal divttege gal amas rivgu vuortnuhit iezan.
- Muhto ieshan don bahkket dohko, it astta bargat dálubargguid. (...)
- Ferte dat gal giiinu doaladit minge beali. Mu uihan mii áibas duolmmahallat. Dievva gávppi lea gal olmmos, muhto eai sáhte dalle jienádit go galggasii. Eai leat gaskaneaset ruodjamin.

No. Hvis hun la til å kritisere far for all denne kranglinga, hadde han alltid svaret rede:
- Det e ho sjael som begynne. Ae kan da ikke la ei fremmen finska få lov til å drive og plage mae.
- Men det e jo du sjael som absolutt vil dit. Og tid til gårdsarbeid det har du ikke. (...)
- Nån må ta på sae å snakke for oss. Ellers kommer vi snart helt under støvelen. Fullt av folk e det i butiken, men ikke en kjeft som greie å si fra ! Ellers e de rett høgmaelt nok.

Fr. Que ma mère s'avisat de lui faire des reproches, et mon père avait sa défense toute prête.
- C'est elle quoi qui a commencé. Je ne vais tout de même pas laisser une Finnoise me faire la leçon.
- Mais c'est toi qui t'imposes, tu trouves pas le temps de t'occuper des travaux de la ferme. (...)
- Il faut bien que quelqu'un reste là pour défendre nos intérêts aussi. Parce que sinon on sera vite piétiné. Ah y a foule oui dans la boutique, mais ils savent pas dire fève quand il faudrait. C'est autre chose quand ils braillent entre eux.

A word by word comparison shows how the effect of "oral style" is often a question of choice for the translator, whereas in the articulation of the Sami dialogue the "particle structure" (or rather "process") seems to be an unavoidable mechanism.

5.2.

Finally, the relation between oral and written discourse can be approached through **Languages for Special Purposes**, LSP, i.e. a pole of communication diametrically opposed to impromptu speech. To what extent is the role of DIPs compatible with a code determined by an institutional praxis ? What is the respective proportion of DIPs vs. logico-syntactic connectors in the light of the two main types of contrastivities - internal (e. g. scientific discourse versus popularising discourse) and external contrastivity? You will find in (17) the (simulated) Finnish translation of a French period from an economic journal :

(17) () **mahdollinen rahan nosto-oikeuden rajoittaminen; näin/hän tapahtui vuonna 1968 toukokuun tapahtumien ensimmäisinä päivinä**
probable argent-de retrait-droit-de limitation; ainsi+PEN arriva
année 1968 mai-de événements-de premiers jours-aux
"C'est ce qui se produisit, on le sait, aux premiers jours des événements de mai 1968", i.e.

"That is, as you know, what happened during the first days of the events in May 1968", an idiomatic reformulation of the French original utterance ("[plusieurs mesures conservatoires parmi lesquelles une probable limitation des retraits] comme cela s'est fait aux premiers jours de mai 1968", "... different measures among which a probable limitation of withdrawals (of cash/money)" - cf. Fernandez (1987b).

The use of the enclitic particle **-han/-hän** in Finnish (studied in different types of texts by Hakulinen, 1976 : 1-61, (ed.) 1989: 115-146), one of the functions of which is precisely to indicate that the utterance must be treated as involving mutual knowledge, allows the Finnish text a more flexible articulation than its French equivalent.

I shall now put an end to this otherwise practically unlimited inventory of the textual dimensions of DIPs, hoping that I have somehow managed to convince the reader that the choice of **"punctuators" (particles)** as an introduction to a symposium with **macrostructural** ambitions was not motivated solely by a subjective taste for paradox or even for provocation.

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Macrostructure in conversation

INGEGERD BÄCKLUND

Abstract

This paper aims at showing that certain structural relations that contribute to creating text in spoken and written monologue also bind segments together in conversation. The common global pattern is the problem-solution structure. The investigation focuses on how this macrostructural pattern is jointly created and made clear by the speakers in the course of the interaction. It is shown that speakers use two types of markers to clarify the macrostructure of the sample conversations: markers signalling the type of component in the problem-solution structure for a given unit, and markers that signal boundaries between units. Most markers of the latter type have a double function in that they also focus attention on upcoming talk. Speakers use markers indicating the type of component in more than 50% of the structural units in the sample conversations, whereas 34% of the boundaries between units are specially marked. The investigation also shows that speakers cooperate to a considerable extent in shaping the propositional content of structural units and in signalling boundaries between units.

1. Introduction

The analysis of conversation may be approached from different angles. This paper reflects a text-linguistic approach where the focus of interest will be on the overall structural organisation in conversation and on how this structure is jointly created and made clear by the speakers as the conversation unfolds. It has sometimes been claimed that many types of text are built on a common rhetorical pattern, the so-called response pattern, or problem-solution pattern (Grimes, 1975: 211, van Dijk, 1980: 110-1; see also e g Hoey, 1983, Jordan, 1984). In two earlier studies I have traced this macrostructural pattern in spoken and written expository text (Bäcklund, 1988, 1989). The present paper will report on a corresponding investigation of natural conversation. The point of departure will be the hypothesis that the same organising structural relations that contribute to creating text in spoken and written monologue also bind segments together in conversation. To test this hypothesis, the same method of analysis that was used for monological text (Bäcklund 1988, 1989) was applied to conversation. The results of the analysis will be accounted for in this paper and, as mentioned above, I will focus on how macrostructural patterns are constructed and made clear by the speakers in the course of the interaction.[1]

2. Material

My investigation is based on telephone conversations. There are two reasons for this. Firstly, the method of analysis used here aims at clarifying the organisation of complete texts, and to take telephone conversations as the object of study is a practical way of meeting the requirement of complete conversations. Secondly, in telephone conversation speakers obviously must rely more on linguistic means to convey their message than in face-to-face situations. Therefore it seems likely that the text structure of a telephone conversation is more clearly signalled and hence more easily observable than the structure of a face-to-face conversation.

My sample texts are 12 telephone conversations from the London-Lund Corpus of Spoken English.[2] The whole sample comprises some 10,000 words and the conversations range from about 250 words to about 3,300 words. They are all surreptitiously recorded complete calls.[3] All calls except one are purpose-oriented in that the reason for the call is to request or give specific information. The motive for the remaining, fairly short call (7.2 min) seems rather to be a need for phatic communion.

3. Method

The present method of analysis was originally developed by Tirkkonen-Condit (1985) for argumentative text. It is based on Grimes (1975) and Hoey (1983) among others. According to this model a text is seen as a sequence of so-called minitexts, each consisting of a problem-solution structure, i e a set of components forming a structural unit. These interrelated functional components are SITUATION, PROBLEM, SOLUTION, and EVALUATION. These components are paratactically related, thus on the same hierarchical level in the given text segment. The system also includes hypotaxis: a CONCLUSION, for instance, is superordinate to the material from which it is drawn, and an ELABORATION is subordinate, that is on a lower level than the material it elaborates on. There are several types of elaboration, such as Justification, Explanation, and Reformulation. In the present analysis they have all, for the sake of simplicity, been lumped together as Elaboration.[4]

The different components are identified with the help of set questions of the type 'What is the solution to this problem?', 'What conclusion do you draw from this?', or 'How can you elaborate on (exemplify, clarify, etc) this?' If a certain question fits into the text at a given place, this is taken to mark the beginning of a new component of the type identified by the question. This classification into components may be tested by inserting signals associated with the different components. For instance, ***thus*** is a signal of conclusion, ***I am afraid*** of problem, ***had better*** of solution etc. So if ***thus*** fits into a text segment that has been analysed as conclusion, this is regarded as supporting the analysis. Elaborations may be tested by deletion. If a sequence can be left out without impairing the main line of the text, this is an indication of its subordinate status.

As already stated, a text is seen as a sequence of minitexts made up of the components discussed above. All of the components need not necessarily occur within each minitext or section, but in most cases two or more are present. It should also be pointed out that problem-solution structures occur at different levels. An elaboration, for instance, which is subordinate to the material it elaborates on (cf above), may itself consist of a problem-solution structure. These embedded problems and solutions are then at a lower level in the text than the unit they elaborate on. In the present investigation, however, elaborations are not subdivided into their constituent components; it is structures at higher levels that are of interest.

The method of analysis outlined above was applied to the sample texts, and their structural components were identified. In the following I will first discuss structural patterns in the conversations, then give an account of how these patterns are signalled. It appears that there are two categories of structural signals in conversation: signals indicating the type of component in the problem-solution structure, and signals marking boundaries between components. These two types will be accounted for separately.

4. Problem-solution structure in conversation

A telephone conversation always starts with a fairly stereotypical opening section, where introductions and greetings are exchanged. There is also a closing section, where participants agree to finish the conversation and exchange farewells (cf. Schegloff and Sacks, 1973). Openings and closings have been omitted from the present analysis, since it is what occurs between these sections that is of interest here.

The 12 sample texts contain one or several problem-solution structures each. In all, 263 components have been identified. These components fall into two categories depending on whether one or both participants contribute to the propositional content of the unit in question. A participant is regarded as taking part in the creation of a unit if his or her contribution involves more than mere support signals. In (1) we have an instance where both speakers contribute to the content of the unit, in this case an elaboration.[5]

(1)

C: I mean you know# don't get yourself worked up into
a state# and run into lamp-posts and things#
R: no# I'll take the old car# and then you've got the other one# if [@m]
C: oh you take the good one and leave me the old one#
fathead# you might have to take her somewhere#
R: oh yes# all right#

7.2c 436-448

Table 1 shows the distribution of structural components in the sample texts and the degree of speaker cooperation involved in the creation of these components. Components have been classified according to whether the caller, the recipient of the call, or both participants shape the content of the component.

Table 1. *Distribution of structural components and speaker cooperation.*

	Sit	Prob	Sol	Eval	Concl	Elab	Total
Caller	14	37	18	9	9	13	100 (38%)
Recipient	5	22	41	7	8	22	105 (40%)
Both	5	3	7	5	7	31	58 (22%)
Total	24	62	66	21	24	66	263

It appears from Table 1 that in 22% of the components both speakers contribute to the propositional content of the unit. It is above all in elaborations that this cooperation occurs: 31 of the 58 units with both speakers involved are elaborations. Thus, in 31 of the 66 elaborations both participants contribute to clarifying the matter that is currently being talked about. It may be worth mentioning that cooperation seems to be more common in conversations between friends than between strangers: 64% (37/58) of the units in which both speakers contribute occur in conversations between friends, although these texts include only about 40% of the corpus (cf note 3).

Table 1 also shows that problems, solutions and elaborations are the most frequent components, together comprising 75% of the structural units. Problems and solutions may be regarded as core components with elaborations as common supporting elements. The fact that 80% (53/66) of the elaborations refer to problems and solutions also points to the predominance of these two types of structural component. They are also units in which the type of component is frequently marked, as will be shown in the next section.

Finally, we may note that in about 60% of the situation and problem components it is the caller who is alone responsible for the propositional content of the unit, whereas in 62% of the solutions (41/66) it is the recipient, who shapes the content of the component. This is perhaps to be expected since, as mentioned above, all calls except one are purpose-oriented: the caller presents a problem, the recipient proposes a solution.

5. Component signals

It has already been mentioned that there are certain signals associated with the different components of the problem-solution structure. These signals seem to be of three types: connectives, certain syntactic structures, and expressions denoting, for instance, dissatisfaction (problem), improvement (solution), and evaluative expressions (evaluation) (see Tirkkonen-Condit, 1985 *passim*, Bäcklund, 1988: 48f). Metastatements may also be used to signal the type of upcoming component. In (1) above the introductory *I mean* is interpreted as a signal of elaboration (cf Erman, 1987: 118-9), and in (2) below there are three items signalling problem: a metastatement (*I'll tackle our situation*), the expression *it's rather difficult* and the connective *but*. The focusing function of metastatements will be discussed in the next section.

(2)

C: [@m] I if you can bear with me# I *I'll tackle our situation# it's rather difficult#* [@m] my husband and I are both university lecturers# - *but* he is in Glasgow# (- laughs) and [@:] there not being [@] an awful lot of jobs at the moment# [@] it's difficult to know when he'll be able to get down#
8.1p 1053-1059

A fairly frequent component signal in the corpus is *so*, which may be used to introduce a solution, as in (3), or a conclusion, as in (4), where *you know* acts as an additional conclusion marker (cf Erman 1987: 114).

(3)

R: you know I just I just feel it's a bit exhausting#
C: [@h@]# yeah# [@h@]#
R: *so* I just got back in my office# and relaxed for another
C: I see#
R: [@:m] hour and a half#

7.2f 574-579

(4)

R: within five minutes# he could have him#in the place surveying#
C: right# yes
R: *so# you know#* the estate agent's not holding us up#
C: no# no#

R: the fact that the vendors are away# is not holding us up#
C: no#
R: it's just the surveyor# 8.1a 111-124

In more than 50% of the structural units identified in the corpus the speakers use some kind of signal indicating what type of component they are producing at that very moment in the interaction. Table 2 shows the distribution of these marked components.

Table 2. *Distribution of components marked as to type.*

	Sit	Prob	Sol	Eval	Concl	Elab	Total
With signal	3	46	35	21	9	26	140
Without signal	21	16	31	-	15	40	123
Total	24	62	66	21	24	66	263

It appears from Table 2 that if we disregard evaluations, which are always marked, since they always contain evaluative expressions, it is above all in problem components that speakers tend to use signals to make it clear that the utterance in question is to be interpreted as a problem. A signal occurs in 75% of the problem components in the sample texts. Fairly often speakers use several signals in the same component, as in (2) and (4) above. Table 2 also shows that solutions are not as frequently marked as problems in the corpus (53% vs 75%). This may reflect degree of expectations: if a problem has been clearly stated, an adjacent solution is strongly expected, which presumably makes a signal seem less necessary. In (5) the recipient of the call signals his problem by *unfortunately* and once the problem is articulated, the solution proposed by the caller needs no special marker.[6]

(5)

R: *unfortunately*# I'm away from base at the moment# and [@m] haven't got any conference papers with me#
C: [@:] may I leave my telephone number#
R: if you would# yes#
C: [@] perhaps you could give me a ring back#
8.3e 373-379

The connective *but* is the most frequently used component signal in the corpus, with 22 occurrences.[7] As a structural signal *but* marks contrast between adjacent units; it signals a change in the type of information, hence a change in the type of component in the problem-solution structure (cf Jordan, 1984: 68, Bäcklund, 1988: 63). This is demonstrated in (6), where the problem concerns a piece of information that neither speaker has available. After the problem has been expressed, the first *but* introduces an elaboration: R explains why he does not know the answer. The second *but* indicates another shift of component, in this case to the solution.

(6)

> C: we to our great shame# we didn't seem to know the answer# and we thought perhaps you might#
> R: [@] I know# I feel very ashamed# not to have it off pat you know# pat# on the tip of my tongue# *but* the fact is# I haven't not been as it [@] what's called conference secretary# - ... [@:m] *but* I can get the information back to you [@] quickly#
>
> 8.3c 312-324

With the help of component signals of the types exemplified above speakers may clarify the problem-solution structure of the conversation they are involved in. As already mentioned, however, they also have at their disposal a set of markers that indicate boundaries between structural units in general. These will be discussed in the next section.

6. Boundary signals

In the sample texts 275 boundaries between structural units have been identified, including boundaries after opening and before closing sections. In 94 instances (34%) these boundaries are given special markers by the speakers. Boundary signals between structural units in conversation have been discussed by e g Schegloff and Sacks (1973), Sinclair and Coulthard (1975), Burton (1981) and Stubbs (1983). Burton's analysis of conversation is a modification of the model proposed by Sinclair and Coulthard (1975) with Interaction, Transaction, Exchange, Move, and Act as hierarchically ordered units. Certain moves and acts function as explicit markers of boundaries in the discourse. It is Burton's categories that form the basis for the identification of boundary signals in the present investigation. For reasons of space, however, the categories in question can only be very briefly discussed in connection with the presentation of results.

As mentioned above, 34% of the structural boundaries in the corpus are specially marked by the speakers. The markers fall into two classes: signals marking the end of a unit and signals focusing on the beginning of a new unit. In 12 instances there is both an end-of-unit marker and an opening marker. This double marking may be produced by one speaker, as in (7), or both speakers may contribute, as in (8).

(7)

C: I mean I think all you people with cars# are going to find that# you're not going to be able to run them first# you know#
R: aargh# -- oh rubbish#
C: (laughs)
R: *right# now# the thing is this#* --I've got a house which is a probate sale at the moment#
8.2a 349-359

(8)

C: it's time for you to come really#
R: yeah# yeah# *fine#*
C: *listen#* mother's clock# is very is running quarter of an hour slow#
7.2d 260-267

With the marker *right* in (7) speaker R signals the end of an elaboration, after which he begins a new unit, a solution component. The opening of the latter is signalled by *now* and a kind of metastatement, *the thing is this*, which is an attention-getting, focusing act (Burton, 1981: 66). In (8) R uses *fine* to mark the end of a unit, in this case of a complete problem-solution structure. C then embarks on a new minitext with a new topic and introduces this with *listen*. In the present analysis expressions such as *look* and *listen* are included in the category of summonses. Summonses are attention-getting acts that also mark discourse boundaries (Burton, 1981: 66).[8]

Beside *right* and *fine*, exemplified in (7) and (8), boundary signals marking the end of a unit in the sample texts are the items *OK*, *all right*, *all right then*, and *so*. These signals are used at 36 of the 94 marked boundaries. Items such as *OK*, *right*, etc have been termed frames when used as boundary signals (cf e g Sinclair and Coulthard 1975 and Burton 1981).[9] Stubbs (1983: 184) points out that at least some frames 'mark boundaries larger than moves or exchanges'. In the present analysis these larger units are problem-solution structures or components within such structures. It seems worth noting that these frames marking the end of a unit are in fact evaluations, albeit very short ones. In spoken monologue longer evaluations may be systematically inserted to mark off components of the problem-solution structure (see Bäcklund, 1989: 327). In conversation very short evaluations seem to be used with the same function.

Among signals that mark the beginning of a new unit summonses, metastatements, and *now* have already been briefly mentioned. Other such markers in the sample texts are *well*, *actually*, and *by the way*. Some kind of opening marker, or combination of markers, is used at 71 of the 94 marked boundaries. The reason why opening signals are more frequent than closing signals may be their double function: all opening markers in the sample texts except *well* also focus on what is going to be said (cf examples above). As for *well*, Schiffrin (1987) claims that its main function as a discourse marker is to create coherence: '*well* anchors the speaker into a conversation precisely at those points where upcoming coherence is not guaranteed' (Schiffrin 1987: 126). In the sample texts, such points where a connecting link is deemed appropriate by the speaker coincide with boundaries between structural units. This is why *well* is considered as a boundary signal here. Its use in this function is exemplified in (9), where *well* occurs at the opening of a short solution component, which also entails a return to the main topic after an elaboration (cf Schiffrin 1987: 113).

(9)

R: so that I don't know if that's soon enough# but I I expect it will be for him#
C: *well* you you know have a word with him#
R: yeah#

7.21 213-216

Reasons of space prevent a discussion about connections between structural boundaries and the organisation of turn-taking and topic shift in the sample texts. It can be mentioned, however, that structural boundaries occur nearly as often within turns (47%) as in connection with speaker change. As for topic organisation, a sequence dealing with the same topic is always made up of one or several problem-solution structures with 'topic-internal' structural boundaries (cf. above).

Finally it may be worth mentioning that boundary signals seem to be used equally often by both participants in a telephone conversation: at 50 marked boundaries in the sample texts the signals are initiated by the caller, at 44 by the recipient of the call. In this way both speakers take responsibility for clarifying the organisation of the talk.

7. Concluding remarks

One of the aims of the present investigation has been to trace macrostructural patterns in conversation. Some of the results seem to attest to the existence of such patterns. Evidently speakers sometimes find it appropriate to mark boundaries between units that are not involved in the turn-taking system or constitute a topic shift. I would like to suggest that the units in question are components in the problem-solution structure. This means that the same macrostructural pattern that can be observed in monological spoken and written text also applies to conversation.

The investigation has also shown that a model for structural analysis that has been tested on written language will give meaningful results when applied to conversation. This seems to validate the claim that there are considerable similarities between speech and writing as regards structural organisation .

The object of study has been telephone conversation. Obviously, this type of speech has certain characteristics not found in face-to-face conversation. In many respects the two types are similar, though (Crystal and Davy, 1969: 121). Heritage (1984: 240) mentions that results from the analysis of telephone conversation 'have stood up remarkably well' in comparison with face-to-face conversation. However, more research is needed in order to test whether the observations made in this study are valid for conversation in general.

Schegloff and Sacks (1973: 299) point out that 'a pervasively relevant issue (for participants) about utterances in conversation is "why that now", a question whose analysis may also be relevant to finding what "that" is.' It is here proposed that one of the factors that help participants in a conversation to interpret the nature of an utterance and its relevance is the canonical macrostructural problem-solution pattern. And this might be the reason why so much care is taken by participants to make this pattern clear as the conversation unfolds.

Notes

1. I am grateful to Gunnel Tottie for valuable comments on an earlier version of this paper. Remaining shortcomings are my responsibility.
2. For a description of this corpus, see Svartvik and Quirk 1980.
3. The following texts from the London-Lund Corpus of Spoken English are included in the sample:

   7.2a
   7.2b
   7.2d
   7.2e
   7.2f
   7.2h
   7.2k
   7.2l
   8.1a
   8.1p
   8.2a
   8.3e

   Sample 7 (about 4,000 words) consists of conversations between people who know each other; sample 8 (about 6,000 words) consists of calls to strangers.
4. Reasons of space prevent a full description of problem-solution structures in texts and of the method of analysis. See Tirkkonen-Condit 1985 and Bäcklund 1988 for a detailed account.
5. The transcription of the examples has been simplified. Only tone unit boundaries (#) and longer pauses (-) are marked. Each example is followed by a code indicating sample text and tone units. Speakers are called C (Caller) and R (Recipient of the call). Simultaneous talk is not indicated.
6. Note, however, that with a slight rephrasing C could very well have added a solution signal, such as e g *to solve our problem* or *but perhaps I could*. Obviously she felt no need for such a signal here, though.
7. There are, of course, also occurrences of *but* functioning on sentence level.
8. These and other structural signals that mark prominence in conversation will be further discussed in Bäcklund forthcoming.
9. Cf also Schegloff and Sacks (1973) on the organisation of turn-taking. They regard items, such as *OK*, *so*, etc, as signals of possible pre-closings, i e places where either the closing of the ongoing conversation may be prepared for or, alternatively, a new topic may be introduced.

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Lexis in discourse

HEIKKI NYYSSÖNEN

Abstract

This paper is concerned with a discourse-based approach to lexis and, in particular, the discourse role of lexical patterns or lexicalized sequences which are completely or partially pre-assembled and more or less fixed in form. The paper discusses, briefly, the description of such patterns, their function in a community's codes and the cultural differences that may arise in their use. Lexical patterns are related to social competence and two general discourse strategies, called framing and symbolizing, and, lastly, the latent, pragmatic nature of the patterns is briefly touched upon. The examples are mainly from spoken discourse but it is believed that the findings would also be applicable to written data.

1. Introduction

It is assumed in this paper that communicative competence is, to a large extent, the ability to make use of *lexical patterns*. These are lexicalized sequences of phrase- or clause-length or even longer, completely or partially ready-made and more or less fixed in form. It seems that knowledge of such patterns greatly facilitates idiomatic lexical choice, as well as the production of fluent and coherent discourse.

It also seems that lexical patterns are used to encode meanings and organize discourse in accordance with contextual constraints and culture-specific norms. The norms have to do with pragmatic principles such as politeness and the interest principle. Adherence to norms of this kind in communicative behaviour is a feature of *social competence* (Edmondson, 1981).

1. Lexical patterns

1.1.

In lexicography, lexical patterns are dealt with under such headings, for instance, as 'collocation' and 'fixed expression' (e.g. Jackson, 1988). *Collocation* is said to refer to a combination of words that have a certain mutual expectancy, e.g. 'a good read'. The combination is not fixed, however, compared with a *cliché*, such as 'a desirable residence' (found in estate agents' advertisements), a *proverb* like 'You can't win them all', or an *idiom* such as 'storm in a teacup'.

1.2.

A somewhat different approach to lexical patterns is taken in Pawley and Syder (1983). Their starting point is the observation that

> Human capacities for encoding novel speech in advance or while speaking appear to be severely limited, yet speakers commonly produce fluent multi-clause utterances which exceed these limits. (Pawley and Syder 1983:191)

How can such fluent and idiomatic control of a language, characteristic of the discourse of native speakers, best be explained?

According to Pawley and Syder, the control rests, to a considerable extent, on knowledge of a body of 'lexicalized sentence stems'. Lexicalized sentence stems, which range from completely ready-made expressions to mere schemata, are said to consist of

> units of clause length or longer whose grammatical form and lexical content is wholly or largely fixed; the fixed elements form a standard label for a culturally recognized concept, a term in the language. (Ibid.)

It is to be noted that such lexicalized sequences are regarded as *lexical items* in their own right, in the same way as individual words. The fixed expression (ie. idiom) 'storm in a teacup' may again be cited as an example. In this case the combination is wholly fixed; for instance, it is not possible to make either of the two nouns plural (cf. *'storms in a teacup', *'a storm in teacups').

2. Community Codes

The second point about lexicalized sequences is that each constitutes a 'culturally recognized concept', a kind of cultural term. Thus the phrase 'storm in a teacup' is a cultural term used, in colloquial English, as a handy way of describing some incident, non-literally, concisely and suggestively. As such a cultural term, the phrase is a living part of what may be called a *community code*. Loveday writes about such formulaic sequences, and their relation to a community's code, as follows:

> When speakers employ such formulae, they draw upon the community's resources and demonstrate recognizable familiarity with and loyalty to the community's code and implicitly to its values, since the petrified forms relate and refer to a special, historically given social framework. Adherence to this framework is expressed and partly achieved in the employment of formulae which, in turn, contributes to an affirmation of the social order which is metaphorically alluded to in the uses of the formulae. (Loveday 1982: 83)

3. Cultural Differences

3.1.

For someone unfamiliar with the 'special, historically given social framework' it may be difficult, at least in the beginning, to adjust to the code(s) of the host community. There is a good description of such 'life in a new language' in the autobiography of Eva Hoffman (*Lost in Translation*. London: Heinemann, 1989). She knew no English when she went to Canada (and later the U.S.) from Poland as a thirteen-year-old. At one point in the book she writes :

> Every day I learn new words, new expressions. I pick them up from school exercises, from conversations, from the books I take out of Vancouver's well-lit, cheerful public library. *There are some turns of phrase to which I develop strange allergies. 'You're welcome', for example, strikes me as a gaucherie, and I can hardly bring myself to say it - I suppose because it implies that there is something to be thanked for, which in Polish would be impolite.* The very places where language is at its most conventional, where it should be most taken for granted, are the places where I feel the prick of artifice. (Hoffman 1989:106, emphasis added.)

3.2.

What is regarded as polite, or impolite, is clearly culturally variable. There may in fact be considerable differences between the 'politeness codes' of different communities, even within the same nation. This makes it difficult for a non-native to participate in culture-bound speech events, such as informal conversation or banter, or the telling of stories and jokes. For a person who is not familiar with the culture-specific interpersonal codes involved in such events, it can be difficult to acquire the kind of ease, control and self-assurance that are necessary for the various discourse skills - such as initiating a discourse, elaborating and responding, signalling an opening or closing, indicating 'this is funny' or 'this is the punch line'- in sum, all those skills that have to do with 'symbolizing' meanings appropriately and 'framing' one's discourse in a way which is culturally acceptable (Loveday, 1982).

4. Lexical Patterns as a coding principle

Lexical patterns, i.e. lexicalized sequences of all kinds, are perhaps the main element in community codes, and lexicalization, in this sense, perhaps the main coding principle.

We have already touched upon the facilitative function of pre-coded sequences, the fact that they make it easier to handle connected, ongoing discourse. At the same time, the pre-patterned sequences help speakers, in interactional situations, to cope with the contextual and culture-specific demands of interpersonal rhetoric, ie. maxims such as 'be co-operative, 'be supportive', 'be polite' and 'be interesting' (Leech, 1983). Social competence in a language is not just a matter of fluency; it is also a matter of possessing the necessary discourse skills and the ability to project politeness and other aspects of interpersonal rhetoric into the time dimension of ongoing discourse. This is where lexical patterns are such an indispensable resource.

5. Symbolizing and framing as discourse strategies

5.1.

Lexicalized patterns (or formulae, in Loveday's term) fulfil the requirements of social competence in two basic respects. First, they are functionally adapted to the job of *symbolizing*, or encoding meanings in accordance with contextual requirements and culture-specific community norms. Secondly, the patterns help speakers to handle *framing*, ie. discourse organization and matters such as self-presentation (in terms of face, etc.).

Framing and symbolizing are best understood as general *discourse strategies* whose function is to make the interaction successful, both transactionally and interpersonally.

In this connection, Loveday (1982:83) talks about 'formulistic competence'; those speakers who do not possess formulistic competence

> can be interpreted not only as lacking in politeness and sophistication but also as incompletely socialized.

5.2.

All symbolizing patterns are more or less formulaic and idiomatic. Their idiomatic nature can be studied, for instance, by investigating the *softening devices* employed by speakers. A socially competent speaker of English is able to use lexical patterns flexibly for the purpose of softening - combining one pattern with another, modifying a pattern if necessary, and stringing patterns together as and when required, to form a complex 'speech act set', as in the following polite invitation:

(1)

> Well, what I was wondering was if you'd like to join me for a drink at the Ferryboat. It's just a stroll from here.

Here even the propositional content of the invitation is expressed by means of a lexical pattern, a polite cliché: 'join me for a drink'. This pattern is both preceded and followed by softening items, ie. lexical patterns which symbolize such discourse meanings as 'tentativeness' ('Well, what I was wondering...') and a 'sweetener' ('It's just a stroll from here').

5.3.

Calling the speaking turn a *speech act set* alludes to the other aspect of the coding, namely the aspect of self-presentation and discourse organization - in a word, framing. Both conventions, framing as well as symbolizing, function in unison - helping to clarify sense, modifying each other and accommodating to the context, ie. setting, stage and topic of discourse, background knowledge, definition of the activity, and participants' roles and relations.

5.4.

Framing, in particular, has to do with such matters as quantity of speech deemed necessary or appropriate in a particular context; its timing, chunking and sequencing; treatment of topic, etc. Obviously the choice of a framing strategy always depends on the speaker's own individual assessment of the context, as well as his or her willingness to comply with all the culture-specific norms.

In the example, the (male) performer of the act of invitation and the (female) recipient represent a section of British middle class. They have only just met and know little of each other. The invitation concerns a further social activity which could ultimately cause them to become more intimately involved with each other. The man is anxious to achieve his aim but has little idea of how his partner is going to react, etc. These are among the contextual determinants affecting the framing in this case, in terms of turn-length and complexity and sequencing of the constituent acts.

The decisions made on the metalinguistic level of framing have repercussions on the linguistic level of symbolizing, affecting the choice of the lexical patterns, such as those used for softening.

6. Some functions of lexical patterns in discourse

6.1.

It has already been pointed out that framing and symbolizing, although separable in theory, in practice work in unison. While symbolizing has to do with culturally and situationally appropriate encoding of meanings, framing is concerned with the management of face and the structuring of discourse. The reason why lexical patterns are so useful is the fact that they can conveniently combine both aspects, symbolizing as well as framing, even within the same utterance.

Thus such a preface as 'Oh, I was wondering if you could...' is a framing strategy communicating such meanings as 'I know I'm interrupting', 'this is the boundary of a transaction', and 'this is going to be a request'. Simultaneously as an act of symbolizing the phrase is clearly a conventional formula functioning as a polite softening device.

6.2.

It is well-known that there are lexical sequences which occur commonly as framings, e.g.

(2)

If you ask me...
To be honest...
Tell you what...
There's another thing...
Look, I have an idea...
If it's not too personal a question...
All right, let's get down to business, etc.

Polite conversation obviously depends on the proper use of such framing devices, for the purpose of mitigation, for instance, or for coherence, for decreasing distance and increasing rapport, etc.

Sometimes even complete utterances function as lexical patterns used for framing purposes, e.g.'I wasn't trying to insult you', or 'It was just an example'. Other sequences do their job more indirectly - compare, for example, 'I'm expecting a client', used as a pre-closing to forewarn the hearer of the speaker's wish to end the encounter.

6.3.

Some patterns are used for symbolizing as *propositional* elements, encoding an *ideational* meaning. As Leech (1983: 146) points out, there is a pragmatic 'interest principle' by which discourse which is interesting (witty, funny, amusing, etc.) is preferred to discourse that is boring and predictable. This principle favours the choice of lexical patterns known as 'figures of speech' for the expression of propositions. The oft-cited 'storm in a teacup' is one example.

Like the other pragmatic principles, the interest principle tends to be differently valued in different cultural communities: some prefer literal, matter-of-fact truthfulness in situations where some other communities would be inclined to favour a high degree of rhetorical embroidery, e.g. in the form of exaggeration. In the following extract a British businesswoman discusses (in writing) a typical day of hers, using idiomatic lexical patterns of colloquial English for the purpose of rhetorical embroidery:

(3)

> After lunch there are meetings and *a constant flow* of herbal tea...*There's always a mountain of* paper wherever I am...*There's a pile of* books by the bed... We both *make a real effort to* find time on our own... *I know I wasn't put on this earth to* unblock loos... I took to walking around Harvey Nichols, which *cost me a fortune*...Being away from everything *is heaven*...*The dice are loaded against* any woman trying to combine this sort of work with a family.

7. Latent patterning

It is an important feature of some lexical sequences that they function in discourse as 'latent' patterns (Sinclair and Coulthard, 1975). *Latent* patterns, and the discourse functions of such patterns, are not necessarily recognized in grammatical descriptions concerned only with referential meanings. In the above passage the collocations, such as 'a mountain of paper' and 'a pile of books', are latent patterns in their metaphorical readings. In 'I *was* wondering if...' the past tense is not to be taken literally either but as a latent pattern symbolizing politeness.

It is knowledge of latent lexical patterning that perhaps more than anything else sets a native speaker apart from non-natives. The fact that stereotypic lexical sequences, such as the sentence stems of Pawley and Syder, exist as cultural terms, means that they can be an effective barrier and one that is cultural as well as linguistic. Eva Hoffman was intuitively aware of this barrier when such a conventional phrase as 'You're welcome' struck her as a gaucherie. It is possible that Eva, as a non-native, took this phrase too seriously, reading too much into it. It would have been possible to disregard the 'impolite' implications of the expression and treat it as just a friendly gesture, a gracious but basically meaningless acknowledgement of thanks received. After all, something like this is what the phrase amounts to as a latent pattern, as an element of the community code in question.

8. Conclusion

It has not been possible, in this short paper, to touch upon more than only a few aspects of lexis in discourse, namely lexical patterning and its role in culturally and contextually appropriate communication. Lexical patterns, especially those which are here called latent, remain a field which needs much more investigation, theoretical as well as empirical. Such investigation promises to provide a key to other cultures, and to the ways they encode meanings and structure discourse. In the long term, this in turn promises to help avoid misunderstandings in cross-cultural communication.

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The notion of coercion in courtroom questioning

ANNE MARIE BÜLOW-MØLLER

Abstract

Researchers in the field of 'forensic linguistics' often operate with a simple scale of coerciveness in questions: the syntactic form is correlated with speaker's control over hearer's options. This paper argues that this sort of analysis fails to account for the inferences that can be counted on in hearers (i.e. judge and jury): syntactically coercive questions can be highly cooperative and vice-versa. In the present corpus, the most coercive forces were found not so much at the syntactic level as at the pragmatic, situation-bound level, with control strategies isolated e.g. in attorneys' use of tact maxims and the use/mention distinction.

Linguists who study interaction in court are working with a discourse formed by tradition and respect. They therefore face a structure that is a priori right and proper and natural, and an ideology that is virtually invisible. Among the steadily growing number of analyses of language in court, a majority deal specifically with the way counsel question defendant and witnesses (see e.g. Adelswärd et al., 1987; Atkinson and Drew, 1979; Danet and her associates, 1976 onwards; Harris, 1984a,b; Walker, 1987).

To discuss the amount of *control* that counsel exert is also to query the idea that the purpose of evidence is just to get witnesses to tell their story. Counsel are obliged to extract information in a particular shape because of the peculiar communicative situation in court: they are not seeking information for themselves, but on behalf of judge and jury. This means that question sequences are planned so as make a point and to highlight its significance for the 'real' hearers, and it is this extra partner in the communicative process I want to concentrate on. I shall argue that it makes no sense to talk about 'coerciveness' and 'control' without the rest of the situation: communication has not taken place until the intended addressees have drawn their inferences from a given sequence, and fitted it into their image of the story that is being pieced together before them.

In the following, I shall use 'inference' in a loose sense, covering both logical abduction and conversational implicature.

1. The notion of coercion in questioning

There is a fair amount of agreement in the literature of forensic linguistics about the scale of coerciveness as reflected in the syntactic form of the question. The descriptions distinguish steps on the scale in more or less detail, but the place on the scale does not vary greatly:

> - least coercive are imperatives and other requests to tell a story, including 'requestions' such as *Can you tell us his name*, which are technically yes/no questions; - then follow wh-questions ('broad', as after *how* or *why*, 'narrow' after *who*, *where*, etc),
> - yes/no questions, including closed alternatives such as *Miss or Mrs?*, and finally
> - declarative statements with or without tag or rising intonation.

There is an obvious danger in pulling questions of a certain syntactic form out of their context and counting them, as do for instance Danet and Bogoch (1980) as one parameter in an attempt to measure 'combativeness'. Without the sequence, as e.g. Dunstan (1980) argues, with reference to the Danet/Bogoch study, there is no way of knowing if a request for information is heard as just that, or as a reinstated request, which is much more challenging, or as simple confirmation of something already established.

While agreeing wholeheartedly with the latter, I would like to pose an extra condition that seems very obvious but is often not specified: The degree of coerciveness cannot be gauged from the syntactic form without knowing if the responder is counsel's own witness or a hostile witness on cross-examination; the same form does not denote the same control, as will be shown presently.

It should be added at once that this difference shows up much more clearly within the adversary court system found e.g. in the United States than in the data obtained from depositions and from Swedish courts, where there is not necessarily the same single-minded emphasis on nailing the responder. The point about the context, however, holds good in all cases.

To illustrate the difference that the context imposes on interpretation I shall use examples from examinations-in-chief (in the following X) and cross-examinations (XX), all extracted from the mock 'trial' of Lee Harvey Oswald, which was widely televised in 1986, and which is therefore available for double-checks. The trial used witnesses from the original Senate hearings and it was unscripted; for this particular purpose, there is no reason to doubt that the material shows the same strategies as an ordinary trial in front of a jury. I have discussed other features of language analysis of this case in other papers, notably the way the two attorneys compete in establishing credibility and their use of strategic question sequences (Bülow-Møller, forthcoming).

2. Open questions

Imperatives and other open invitations are supposed to be restricted to counsel's own witness; they are primarily used when a well-rehearsed witness can be relied upon to 'tell the story in his own words', which aids counsel in presenting to the jury the testimony as spontaneous and unfettered.

The counsel for the Defence, Mr Spence, uses the imperative form extensively to signal that his witnesses have information that has been overlooked, in the classic 'Tell the Court, if you would, how you discovered that'-form. He also frames his invitations so as to include himself and signal co-operation: he uses the inclusive *Let's* form when he extracts evidence:

(1) X: - *Let's* now describe to the ladies and gentlemen of the jury what you were preparing to do.
W: - Prepare the body, remove the brain [...etc]

The same, supposedly open, form is used by Spence when the immediate addressee is the pathologist brought in by the Prosecution. Here is the opening:

(2) XX: - Now, there are some serious problems with this autopsy, aren't there, Doctor?
W: - There are some problems with the autopsy, yes
XX: So *let's* be honest with these ladies and gentlemen of the jury, and *let's* tèll them, let's just TELL them what the problem was.
W: [small gesture]
XX: - Did you ever..sée..the bráin?

Despite the form, this is *not* an invitation; it is a hoop to jump through. The difference resides in the handling of sincerity conditions: Spence does not for a moment believe that a hostile witness will damage his previous testimony by voluntarily setting out the problems, but by pointedly creating an occasion for the witness to furnish the jury with the whole truth, he also creates a ***marked absence***.

The picture is the same in the case of wh-questions. With the examining counsel's own witness, they elicit information in a relatively free, narrative form; they function explicitly as invitations.

Other studies, however, have demonstrated that wh-questions can also carry an accusation, if the circumstances are right. Harris (1984b), for example, lists examples of defendants who cannot pay, and who are met with questions such as 'How much did the carpet cost?' or 'How many jobs have you applied for in the last two weeks?'. There is a strong expectation that when the defendant mentions a figure, it will be self-incriminating or at least show him to be irresponsible, and so the question functions as an accusation (op.cit.:20).

In the present material, there is a particular structure of hostile wh-questions, aimed directly at the jury. In the following example Mr Spence cross-examines a witness who watched the presidential motorcade from the floor below the window from which Oswald is alleged to have fired. He claims to have heard the shots overhead and the sound of the cartridge cases as they dropped to the floor. Spence tries to get him to say that any metal object would have sounded just the same, but the witness maintains that he is sure:

(3) XX: - I mean, had you ever heard - you never hàd heard metal cases from a, from a gun drop on your head before, had you?
W: - I told you what it sounded like to me.
XX: - Yeah. OK. *When* was the last time before the assassination that you'd ever heard a rifle eject a shell?
W: - I can't say the exact time.
XX: - Never heard one, had you.
W: - Yes sir, I've heard some.
XX: - All right.

Spence desists as it is obvious that the witness is unlikely to have had experience that allowed him to *recognize* the sound of shells falling on the floor over his head.

In this case, as with the open 'invitation', the gap is left open for the jury to notice. The freedom implied in the form is used ironically.

Three of the main features that constitute ironic usage are *pretended* advice, acceptance, praise and other positive moves (Muecke, 1978), *echoic* mention of something said or purportedly felt by the victim (Sperber and Wilson, 1986), and the *use/mention* distinction (Sperber and Wilson, 1981). There is a natural overlap between the three angles, *pace* Sperber (1984), for whom there is a sharp distinction; in this case, however, all three features can be demonstrated in the irony-carrying exchanges: Spence 'echoes' the witness's certainty, thereby pretending to 'accept' his position; this allows him to adopt the presupposition that an exact time can also be asked for. And he 'quotes' the attitude in the evidence - albeit in terms of mention-not-use, for one can hear the intonational quotation marks in his question, corresponding to a gloss such as 'OK, if, as you say, you have "heard a rifle eject a shell before", when was this?'

The conclusion is that the open question form, which ought to offer an invitation to the witness to explain himself, can be used on cross to let the witness hang himself. When counsel persists in marking the witness's terms as 'mentioned, not used' when he himself repeats them, he creates a distance of frank disbelief; but the coercion here is not in the syntactic form. What is threatening about the use-mention strategy is that its effect resides in the inferencing work done by the jury: any unanswered challenge is a meta-message to them, for when the witness fails to provide the invited information, it is meant to trigger the implicature that he cannot substantiate his claim. It is even arguable that the attorney chooses a question form that forces the jury to do their own inferencing as more effective, on the principle of the reception-aesthetic 'blanks': judge and jury are much more likely to believe in a judgement they have formed themselves compared with one they have had suggested to them by an interested party.

3. **Closed questions.**

Closed or controlling questions correspond to the two lowest rungs on the ladder, the yes/no questions and the statements. They are seen as powerful: 'Power [...] is equated with control of the witness, and one kind of control is exerted through leading the witness to the desired answer' (Walker, 1987:77). The coercive questions are 'those in which the examiner imposes his own interpretation on the evidence' (Woodbury, 1982:8), and not surprisingly, they form the majority in cross-examinations: Danet and Bogoch found that 'a high 87% of all questions asked during cross were coercive, as opposed to 47% on direct' (op.cit.:48). The reason for this is of course the communicative process, which forces an attorney to phrase his alternative version of the story as a series of questions; he will ask not for information, but for confirmation of something he already knows, or believes.

This peculiarity is also behind the refusal of Adelswärd et al. (1987) to see the statement form as unambiguously coercive: they view it as either a request for minimal confirmation, or as an invitation to expand conversationally, which is reasonable enough according to the cooperative relevance principle: you do not tell people something you both know without one of these motives.

In practice, in the present material, conversational maxims of cooperation tend to favour the privileged questioner. The dividing line runs between X and XX, inasmuch as counsel's own witnesses sometimes hear an invitation to expand, and are rarely stopped, whereas hostile witnesses 'hear' an obviously unintended invitation to expand only when they reject a statement and attempt a reformulation.

Just as statements are not necessarily hostile, so with closed questions; Danet and Bogoch recognize the difference and suggest that 'while we might easily label them combative on cross, during direct they are combative only in the sense that they control the information revealed in the reply, and minimize any potential damage to be done during either direct or cross. In other words, they are a sort of preventive measure on direct' (op.cit.:43-44). I would like to suggest that 'prevention' is not all there is to it. As with the open questions, this type can be put to work in more than one way.

There is no doubt that closed questions 'work' on cross, partly because they are put as either to confirm known facts or to draw a logical conclusion from such a series:

(4) XX: - And when he talked about his children I think you said that he chùckled.
W: - Yes he did.
S: - And he was concèrned about his family . and his wife.
W: - Yes he was.
XX: [spreading hands, 'nodding rhythmically] - And you LIKED him, didn't you.
W: - Yes sir, I thought he was a very nice person - always treated me nice.

The expectation of agreement is such that the onus is on the witness if he wants to disagree. This is the case for an expert witness who has vouched for the genuineness of a photograph which Spence suggests could be a fake, along with other pictures known to have been 'phoneyed up by the CIA or the KGB'. The witness will not concede that he does not know how sophisticated their methods are:

(5) XX: - You don't know, do you.
W: - Yes I dò, I dò know.
XX: - You make room for the possibility that the CIA or the KGB could fool you?
W: - No.
XX: - You don't think they could?
W: - No.
XX: ..- Thànk you!

Spence chooses a formulation so mild that it is very hard to refuse (*make room for the possibility*); but the witness cannot concede this point without opening up for doubts about the rest of his evidence, which gives Spence the opportunity to *reinstate* the question for the third time, which acts as an aggravation that signals disbelief. His final *Thank you* is pronounced facing the jury; it is slightly delayed and pronounced with 'flooding', as if he cannot withhold a snort of scornful laughter.

One important feature in this little sequence is the underlying breach of social expectations of tact. This rule, which is strictly speaking outside language, but which still dictates lexico-grammatical choices, can be defined after Leech (1983); he distinguishes several maxims of politeness, and this particular one is the *modesty maxim*: "Minimize praise of *self*" (op.cit.:132). The witness flatly refuses the suggestion made to him; in return, he is made to claim infallibility, which is socially sanctionable and gives Spence a right to discount the answer, or rather, to hold it up for ridicule. As the question concerns individual beliefs about a hypothetical matter, there is no tangible reason to doubt the witness; but the slight pause and the intonational marker signal to the jury that what they are seeing is not firmness but pigheadedness.

Tact maxims are also directly involved in the pragmatically highly cooperative use that can be made of what ought to be coercive questions in examination-in-chief.

When a new witness is introduced there is always a small series of check-questions for the benefit of the hearers, to establish in what capacity this particular witness has been called - here Mr Bugliosi:

(6) X: - Directing your attention right back to October 1963, were you employed at the Texas School Book Depository, located at the corner of Elm and Huston Street?
W: - Yes sir.

It is slightly less innocent when the series is used to build up the witness's importance in the eyes of the jury:

(7) X: - Doctor Petty, were you one of nine forensic pathologists chosen from around the country by the House Select Committee on Assassinations in 1977 to serve on the autopsy panel reinvestigating the assassination of President Kennedy?
W: - I wás

Such is the effect of the modesty maxim that it would be positively damaging for the witness if he had himself chosen these words if asked what his role was. Far from merely 'preventive' control, the minimal-confirmation-question is a *licence* to feed the jury information that the witness could not, in all modesty, give himself.

And such is the effect of this ploy that if it is combined with irony in building up the witness's importance, the use is absolutely lethal. This is what happens to an eye-witness who is called because he was very close to the President's limousine when the shooting occurred, and who is confident he knows where the shots came from; Spence opens the cross:

(8) XX: - Mr Brehm, have you ever stated to folks that you feel that you are possibly, erh, .that you are an èxpert, an authórity, on possibly six or eight seconds in history, erh .that you are an absolute expert in that area?

When the witness has admitted this, in some embarrassment, Spence proceeds to demonstrate a small inaccuracy in his account, compared with the film that exists of the assassination.

Spence exploits the use/mention distinction when he dangles the word *expert* in front of the witness, evidently without accepting it for his own use, thereby creating an opposition between what is claimed (by the witness) and what is demonstrated (by

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himself): the distinction that is known in literary studies as that between 'telling' and 'showing'. It is the conjunction of the inaccurate telling and the more precise showing that carries the meta-message to the jury, and it carries coercive force, as the witness cannot at that stage retrieve his credibility by pointing out how slight the inaccuracy really was.

4. Coercion in the speech act system

To account for the coercive force, and the amount of power and control involved in questioning, it seems that we shall have to reckon with several levels in the speech situation. If we cannot go on syntactic form alone, because the coerciveness of the whole speech act is involved, then the **illocutionary** force, the way an act is to *count*, is an obvious candidate; but the problem with illocutions is that they can be treated as negotiable. For example, there is a tendency for cross-examining counsel to treat answers that are presumably intended as factual information as *admissions*, as in the following example, where Spence is with the witness that heard the shells drop on the floor:

(9) XX: - You thought there was an armed man up there [...] All right. You didn't run and get the hell out of there?
W: - No sir.
XX: - You never did call down for the police?
W: - No sir.
XX: - You stayed there for 15 minutes just watching the crowds after that, isn't that true? [...]
W: - I stood there for a while.
XX: - Yeah. [...]. Thànks, [genial smile and nod], 'preciate it.

The uptake in the last line, both the *Yèah* and the *Thànks*, is a receipt issued for the confirmation; and although this is the end of the cross, where witnesses are routinely thanked, Spence's evident satisfaction gives rise to the inference that the witness has been helpful; the uptake thus retrospectively defines the answer as the admission Spence was looking for.

But the sequence also illustrates the way the build-up in itself shapes a speech act in context. By mentioning several things that the witness did not do, Spence fields a 'normal', commonsense view of actions compatible with being directly underneath an assassin at work; and by spacing them in separate questions he aggravates the perlocutionary effect of *challenge*.

In circumstances of normal conversation, the challenged partner would undoubtedly have rallied in order to scotch the implicature that goes with the implied admission (i.e. that if he chose to hang[illegible]und apathetically, he cannot have been terribly convinced about the presence of a gunman at the time); but in a system that discourages initiatives, counsel has a relatively free hand in setting up perlocutionary effects for the benefit of the 'real' hearers.

It follows from this division that we are dealing with coercive forces that apply at different levels in the speech act system, and that the pragmatic forces are at least as effective as their syntactically demonstrable counterparts.

The highly specialized communicative process that is described here can only be understood if we insist on separate layers or strands containing messages for the several addressees.

The official version is that evidence consists of facts, of statements such as what witnesses know and/or experienced at the time, so that a chain of events can be strung together; interpretation of the facts is reserved for the attorneys' opening and closing speeches. But in practice, the string of 'facts' are produced under syntactic and pragmatic coercion, because they are tailored to the needs of the real addressee, the judge and the jury.

In this way, the whole question of coercion ties in narrowly with the need for counsel to second-guess the inferencing processes going on in the minds of the judge and jury members: hence the need to interpret the carefully elicited bits of information ('So is it true to say...?'), to preempt objections ('Doctor, you have no doubt heard the claim that (x)...would that in fact be possible?') or to plant insinuations about the witness's credibility. In this way, coercion in the primary interaction is transformed into suggestion in the secondary message.

Jurors, when asked, tend to assume that they were persuaded only by fact, particularly as they tend to regard statements they disagree with as emotion. The enormously important field of forensic rhetoric has not been touched on here; but there is an obvious connection between between the choice and shape of argument and the coercive force that can be wielded in questions. The pervasive assumption that cases are decided only on the basis of fact makes it so much more important to trace the art and craft whereby evidence attains the status of fact, and a version of the story is canonized as The Truth.

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Message structure in LSP texts. A socially determined variation at different text levels.

BRITT-LOUISE GUNNARSSON

Abstract

This article presents methods and results from diachronic studies of articles from three fields carried out within the project 'LSP texts in the 20th century'. The interrelationship between text and context is central for the general theoretical model within which the LSP studies at the cognitive, pragmatic, macrothematic and microsemantic levels are carried out. The methods for cognitive and macrothematic analyses are described. Results are also presented from the study of the superthematic structure of 90 articles within science and popular science. The results are discussed in relation to hypotheses regarding a development during the 20th century towards clearer genre boundaries and firmer genre conventions.

1. Introduction

The relationship between text and context is essential for the text analyses within the research project 'LSP texts in the 20th century' which has been carried out at Uppsala University since 1986.[1] The theoretical frame is based on a synthesis between, on the one hand, text-linguistic theories and methods and, on the other hand, sociolinguistic theories. This means that texts within the project are studied as systems of linguistic structures that in different ways reflect society. It further means that linguistic change is studied and explained in relation to changes in society.

In this article, I will present our research programme focussing on how we try to grasp the interrelationship between text and context. I will discuss the more general theoretical model which is the basis for the text analyses within the project and then give two examples of how we, in our studies, try to grasp the correspondence between the text and its context. The first example focusses on the method of analysis (3), and the second one on the explanation of results (4).

2. The general theoretical model

The project 'LSP texts in the 20th century' has as its aim the study of genre-bound linguistic change and variation. We have analysed LSP texts of two genres, science and popular science, within the fields of economics, medicine and technology. The texts chosen are articles from three periods: 1895-1905, 1935-1945 and 1975-1985. Altogether, we have analysed 90 articles, that is around 7,500 standard pages, where standard means 3,000 characters per page.[2]

The goal of our text analyses is to describe synchronic variation and diachronic change on textual levels related to the message structure of LSP articles. Message structure is, of course, a multifaceted concept, and in this study of LSP articles, we focus more precisely on four dimensions of the message structure: the cognitive, pragmatic, macrothematic and microsemantic levels.[3]

To explain our choice of levels, I will turn to a brief presentation of the more general model for the correspondence between text and context which is basic for this LSP project.[4] The synchronic and diachronic analyses of texts within the project rest on a sociolinguistic basis, and the correspondence between context and text is, therefore, essential.

I distinguish between three types of context components: 1) *text-external* (situation, actor and function), 2) *intertextual* (genre), and 3) *intratextual* (text role and text means). These components are hierarchically organized; the text-external are above the intertextual and intratextual; situation is above actor and function, etc.

The context components can, in turn, be related to different text levels. I distinguish the following levels: *cognitive*, *pragmatic*, *macrothematic*, and *microsemantic*. The main assumed associations between component and level are the following:

Context	Text level
Text-external	
- Situation	Cognitive
- Actor	Pragmatic
- Function	Pragmatic
Intertextual	
- Genre	Macrothematic
Intratextual	
- Text roles	Pragmatic
- Text means	Microsemantic

The theoretical assumption in the LSP project is that texts systematically reflect changes in the contextual frame. This means that different types of changes in the contextual frame are assumed to be reflected at different levels. Figure 1 shows our assumptions of societal changes related to the different context components, and the text levels at which these changes can be assumed to be reflected. In Section 4, I will return to the hypotheses of changes related to the genre components, that is to changes assumed to be reflected at the macrothematic level.

Context component	*Trends in the 20th century*	*Text level*
Text-external		
-Situation	Specialization Professionalization Technologization Internationalization Educational expansion Greater state involvement	Cognitive
-Actor	Greater differences More experts	Pragmatic
-Function	Diversification Information explosion	
Intertextual		
-Genre	Clearer genre boundaries Firmer genre conventions	Macro-thematic
Intratextual		
-Text roles	Author-reader more distant	Pragmatic
-Text means	Changed textual patterns	Micro-semantic

Figure 1. *Context component, trends in the 20th century and text level*

3. Method for cognitive text analysis

As a first example of how we try to grasp the correspondence between text and context, I will give a short description of our method for cognitive analysis and its contextual motivation. As was described in Section 2, the component *situation* is assumed to be reflected primarily at the cognitive level, an assumption which has served as a starting-point for my elaboration of our method for cognitive text analysis.

If we want to describe the situational context of LSP texts, we can choose frames of differing scope, as shown in Figure 2. The frame may be the actual situation in which the text is produced, or the situation within the specific field, or the broad societal frame.

All these frames, which are in fact interrelated, are important for a discovery of the correspondence between context and text. The inner frame, pertaining to the actual production of the text, is more or less unique for each text. However, for genre-bound changes, which are the concern of our studies at Uppsala, the other two frames are the most important, the middle frame showing factors unique to each field, and the outer showing factors common to all LSP texts.

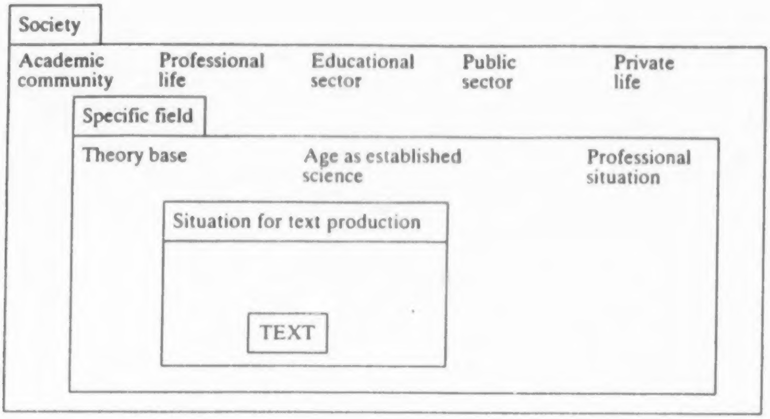

Society
Academic community
Professional life
Educational sector
Public sector
Private life
Specific field
Theory base
Age as established science
Professional situation
Situation for text production
TEXT

Figure 2. *The LSP-text and its situational frames*

In many respects, each field has developed in its own specific way. Theory bases are unique to each field. Fields also differ in how long they have been established sciences. The professional situation is a third factor that is unique to each field.

Texts in each field can, thus, be assumed to follow their own specific courses of development due to their unique histories. In many respects, however, their development may be assumed to be the same, reflecting changes in society as a whole.

Within professional life and the academic world, there are a number of trends that are quite noticeable. Specialization, professionalization, technologization and internationalization are terms used quite frequently to describe developments during this century.

With regard to the educational sector we can note a considerable expansion. As to the public sector, we can, for example, note that the standard of living of the average Swede has improved. We can also note a successively higher degree of state involvement, for example in social and financial matters. Finally, for private life, we find changed patterns in domestic and family life, and also in the role of leisure in the lives of men and women.

From this discussion of the analysis of the context component *situation*, I will turn to a description of our method for analysis of the cognitive content. The aim is to describe the cognitive network of texts, where by cognitive I mean a text level related to the content, that is the knowledge, presented in the text. The content varies, in fact, from field to field, from subject to subject, from text to text. At an abstract level it can, however, be said to vary with regard to a few *cognitive worlds*: a *scientific world*, a *practical world*, an *object world*, a *private world* and an *external world*. These worlds correspond to the different sectors of society which were considered relevant to LSP texts, and to which changes during this century can be assigned; scientific world to academic community (and educational sector), object world to educational sector (and also to academic community and professional life), practical world to professional life, private world to private life, external world to public sector.

This world concept has similarities with the schema concept, which is familiar from theories within cognitive psychology. There, schema is used to cover quite different types of storing (cf Piaget 1929, Bartlett 1932, Wertheimer 1945, Schank and Abelson 1977, Thorndyke 1977, Kintsch 1978, Spilich et al. 1979, Voss et al. 1980, Schütz and Luckmann 1984). My world concept has similarities with the schema concept, in the sense of specific and general knowledge. The five worlds - scientific, practical, object, private and external - are possible knowledge structures, which means that they form a background for idealized authors when they construct texts and for idealized readers when they try to build up a mental representation of the text they read.

Figure 3 below shows the five cognitive worlds and their related categories *text type*, *aspect*, *dimension*, and *role*.

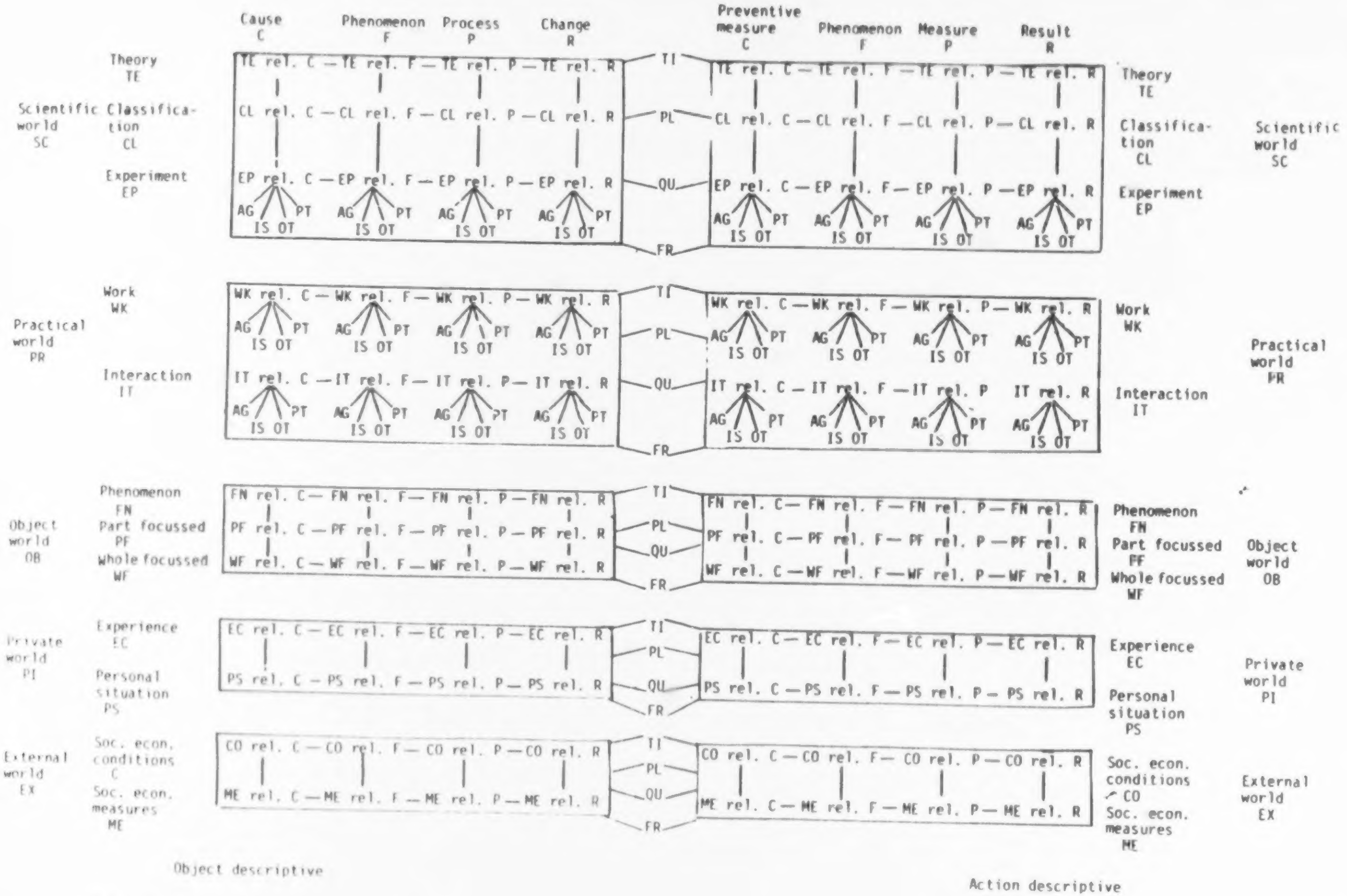
I have found it relevant to distinguish between two types of text content (text types): *object-descriptive* and *action-descriptive*. This distinction is not relevant for a categorization of the texts as a whole, but rather of their constituent parts.

Within each world, I identify certain abstract categories that are common to different texts. On one level these categories relate to different aspects: within the scientific world, *theory*, *classification*, and *experiment*; within the practical world, *work* and *interaction*; within the object world, *phenomenon*, *part focussed* and *whole focussed*; within the private world, *experience* and *personal situation*; within the external world, *conditions* and *measures* of social, economic and political kinds.

On another level, these categories relate to different (time) dimensions. For object descriptive texts, these (time) dimensions are *cause, phenomenon, process* and *change*/result. For action descriptive texts, they are *preventive measure*/cause, *phenomenon, measure*/process and *result*.

I also distinguish between different case roles, some of which are common to all five worlds. These are *time*, *place*, *quantity* and *frequency*. Other roles are specific to certain aspects, for the aspects analysis and interaction within the practical world as well as for experiment within the scientific world. These aspects are *agent*, *instrument*, *object* and *patient*.

Figure 3. *Text universe (invariant)*


Cause C
Phenomenon F
Process P
Change R
Preventive measure C
Phenomenon F
Measure P
Result R
Scientific world SC
Theory TE
Classification CL
Experiment EP
TE rel. C — TE rel. F — TE rel. P — TE rel. R
CL rel. C — CL rel. F — CL rel. P — CL rel. R
EP rel. C — EP rel. F — EP rel. P — EP rel. R
AG IS OT PT
TI
PL
QU
FR
Practical world PR
Work WK
Interaction IT
WK rel. C — WK rel. F — WK rel. P — WK rel. R
IT rel. C — IT rel. F — IT rel. P — IT rel. R
Object world OB
Phenomenon FN
Part focussed PF
Whole focussed WF
FN rel. C — FN rel. F — FN rel. P — FN rel. R
PF rel. C — PF rel. F — PF rel. P — PF rel. R
WF rel. C — WF rel. F — WF rel. P — WF rel. R
Private world PI
Experience EC
Personal situation PS
EC rel. C — EC rel. F — EC rel. P — EC rel. R
PS rel. C — PS rel. F — PS rel. P — PS rel. R
External world EX
Soc. econ. conditions CO
Soc. econ. measures ME
CO rel. C — CO rel. F — CO rel. P — CO rel. R
ME rel. C — ME rel. F — ME rel. P — ME rel. R
Object descriptive
Action descriptive

Rel.=related to
AG=agent, IS=instrument, OT=object, PT=patient
TI=time, PL=place, QU=quantity, FR=frequency

Figure 3. *Text universe (invariant)*

The roles time, place (or sector), quantity and frequency are placed outside the frames of the schemata. I have done so to emphasize the fact that these dimensions are not categories of the schema. Rather, they cause the schema as a whole to vary. The roles agent, instrument, object and patient are found in the scientific and practical worlds.

Figure 3 shows the invariant text universe. The worlds and categories do, however, also appear in variant forms. For our analyses of LSP articles at Uppsala, we have described a text universe for the medical field, another for the technical field and a third for the economic field (Gunnarsson, 1989: 20-22).

The cognitive content of the 90 articles in our study have been analysed in the five types of abstract categories: *knowledge world*, *aspect*, *type of text*, *dimension* and *role*. Each semantic text unit, approximately each proposition, has been categorized.[5]

4. Macrothematic analysis

As a second example of how we try to grasp the correspondence between text and context, I will describe some of our results from the text analysis at the macrothematic level. My focus will be on our explanations of the results.

As was shown in the first diagram in Section 2, the macrothematic structure was assumed to reflect the genre component. With regard to this genre component, two hypotheses were formulated in Figure 1: Clearer genre boundaries, and firmer genre conventions. Clearer genre boundaries mean, for example, greater distance between scientific and popular articles, scientific articles becoming more scientific, popular more popular. Firmer genre conventions can mean a greater homogeneity within genres, within science and popular science.

4.1 Method

For the text analysis at the macrothematic level, we have used a modified version of methods elaborated by researchers in Birmingham. In his book *On the Surface of Discourse*, Hoey (1983) distinguishes different text patterns: the Problem-Solution pattern, the Matching pattern, and the General-Particular pattern. Hoey's text patterns concern written texts in general. More directly related to scientific articles are, however, the categories which are suggested in Swales (1981) for a description of article introductions. Swales analyzed the introductory parts in articles from different sciences and found that these seemed to have a similar rhetorical structure. This could be summarized as four moves, which usually appeared in the following order: Move

1: 'Establishing the field', Move 2: 'Summarizing previous research', Move 3: 'Preparing for present research', Move 4: 'Introducing present research'.

Other researchers have tried to describe the moves for other parts of text, for example for the discussion part. In Dudley-Evans (1989) the following categories are enumerated: background information, statement of result, (un)expected outcome, reference to previous research (comparison), explanation of a surprising or unsatisfactory result, deduction, hypothesis, reference to previous research (support), recommendation, justification.

These categories and Swales' moves have been the starting-point for the method I have elaborated for our analysis of the macrothematic structure of the LSP texts in the Uppsala study. I have modified and expanded the Birmingham model, to make it useful for our analysis of not only contemporary texts, but also older ones, and not only articles within science, but also within popular science. The most important differences are the distinction of a supertheme called *conclusion*, and different macrothemes related to consequences and measures directed towards society.

The analysis of the macrothematic structure of LSP texts within our project has been carried out in two steps. Each macrosyntagm (each main clause and its subordinate clauses) has been categorized first as to *supertheme* (see 4.2) and secondly as to *macrotheme*.[6]

4.2 Results

I will now present some results from our analysis of the superthematic structure of Swedish LSP articles which are of relevance for the two hypotheses mentioned above.

Each macrosyntagm has been categorized as to *supertheme*: *introduction*, *theme-development*, *discussion* or *conclusion*. We have further distinguished *abstract* as a separate category. Results have been calculated for each text separately, and based on these text-individual data, means have been calculated for the different subgroups in our corpus.

Table 1 gives the mean percentages of the superthemes. Abstract and introduction are combined into one category, called introduction, and discussion and conclusion into one, called discussion. The table shows the mean proportion of the theme groups. Results are presented for scientific articles (S) and popular articles (P) from all three fields, from period 1, around 1900, period 2, around 1940, period 3 around 1980, and for all scientific articles (S1-3) and all popular articles (P1-3).

As Table 1 shows, around 56% of the science articles (S1-3) and 66% of the popular science articles (P1-3) have been classified as theme development. The introductory parts occupy on average, 14%, a similar proportion in science and popular science. The discussion parts play a greater role in science, where the average proportion is 28%, which can be compared to 18% in popular science.

Table 1. *Superthemes in LSP articles: science (S) and popular science (P) from three periods of the 20th century.* Mean proportion of the articles.

Science	Intr	Theme	Disc	Popular science	Intr	Theme	Disc
	%	%	%		%	%	%
S1	16	50	33	P1	11	65	22
S2	10	57	31	P2	18	67	14
S3	17	60	21	P3	13	66	19
S1-3	14	56	28	P1-3	14	66	18

A comparison of the proportions for texts from different periods shows, in science, an increase over time for the proportion of theme development, from 50 to 60%, and a decrease for the proportion of discussion from 33 to 21%. In popular science it is more difficult to point to any clear tendencies.

Also of relevance for our hypotheses is a comparison of the diachronic changes in the proportion of the three supertheme groups for articles from the three fields. Figures 4a-c illustrate the supertheme development in scientific articles within the three fields. Figure 4a concerns the supertheme introduction, 4b theme development, and 4c discussion. The solid lines show the developments within economics, the dashed/dotted lines within medicine and the dotted lines within technology.

As the figures show, the lines describing the diachronic development within the three fields converge over time for theme development (4b) and discussion (4c) and somewhat also for introduction (4a). Economic, medical and technical scientific articles written around 1900 were quite different as to the proportion of different superthemes. Modern scientific articles (period 3) are, however, quite similar in this respect.

For popular science, there is, however, no similar tendency towards more homogeneous texts. The lines for period 3 are just as separate as for period 1.

Figures 4a-c. *Superthemes in scientific articles. Diachronic development within the three fields.*

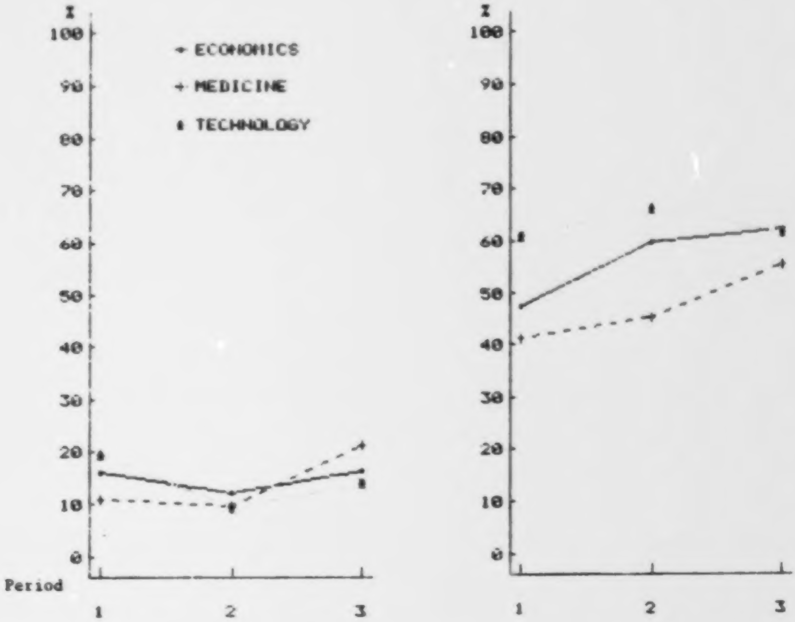


Figure 4a. *Introduction*

Figure 4b. *Theme-development*

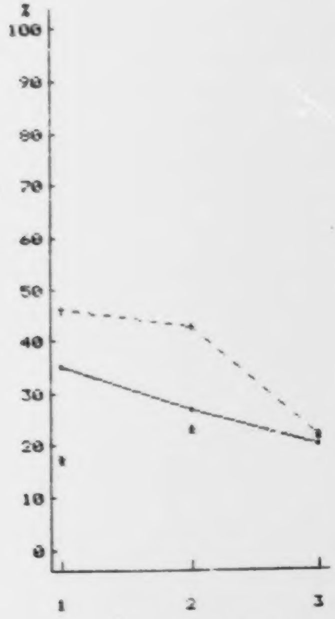


Figure 4c. *Discussion*

Table 2. *Superthematic structure in the 90 LSP articles*

✿ = introduction; • = theme cycle: TDC, TD, TC, T;
♦ = discussion cycle: DC, D

Text	Linear structure	Text	Linear structure
Science		Popular science	
ES1	✿ • • •	EP1	• •
	✿ • •		•
	✿ • • •		✿ • • • •
	✿ • •		• ✿ •
	✿ • • •		✿ • • • • •
ES2	✿ • •	EP2	✿ • •
	✿ •		✿ • • • •
	✿ • •		✿ • •
	✿ • •		✿ ♦ ✿ • • • • • •
	✿ ♦ ✿ • • • • • • • • •		✿ •
ES3	✿ • •	EP3	✿ • •
	✿ • • •		✿ • •
	✿ • • • • • •		✿ • • •
	✿ • • •		✿ • •
	✿ • • •		✿ • • • •
MS1	✿ •	MP1	✿ • • • • • •
	✿ •		✿ • ♦ • • • ♦ ♦
	✿ •		✿ • • ✿ • • •
	✿ • • ♦ •		✿ •
	• • •		✿ •
MS2	✿ •	MP2	✿ •
	✿ •		✿ • • • ♦ ♦ • •
	✿ • • • ♦		✿ • •
	✿ • •		✿ • • •
	✿ •		✿ • • •
MS3	✿ •	MP3	✿ •
	✿ •		✿ • • • • •
	✿ •		•
	✿ •		✿ • •
	✿ • •		✿ • •
TS1	✿ • •	TP1	✿ •
	✿ •		✿ •
	✿ • • ✿ • •		✿ • •
	✿ • • • • •		✿ •
	✿ •		✿ • • • • • • •
TS2	✿ •	TP2	✿ •
	✿ • • • •		✿ •
	✿ • • •		✿ •
	✿ •		✿ •
	✿ •		✿ •
TS3	✿ • •	TP3	✿ •
	✿ •		✿ •
	✿ • •		✿ •
	✿ •		✿ •
	✿ •		✿ •

To get a picture of the overall thematic structure of the articles, I have described the linear progression of the four superthemes: Introduction, Theme development(T), Discussion(D) and Conclusion(C). These superthemes have been put together into three clusters or cycles: 1. introduction, 2. theme cycle, and 3. discussion cycle. By theme cycle, I mean a linear sequence starting with theme development and optionally followed by a discussion part and/or a conclusion part; the combinations TDC, TD, TC and T are each counted as one theme cycle. By discussion cycle, I mean a linear sequence starting with the supertheme discussion and optionally followed by a conclusion part, the combinations DC and D are each counted as one discussion cycle.

Table 2 shows the linear superthematic structure for each of the 90 articles in our corpus. The table is organized so as to facilitate a comparison of texts of different genres, from different fields and periods.

I would like to point to a few tendencies in Table 2. A comparison of the structures of the economic articles - E at the top of the table - with those of the medical - M in the middle - and the technical - T at the bottom, shows that the economic articles are of a more theme-repetitive kind, while the medical and technical articles have a more straightforward character, that is, first an introduction and then one or two theme cycles. If we look at the medical and technical articles we will further find that this straight, simple structure is more characteristic of the modern articles than of the ones from period 1 and 2. For medicine, we can also note that this straight structure more characterizes science - left part of the table - than popular science - right part.

Table 3 summarizes these findings in the form of averages for each text group. The table shows the average amount of cycles - theme and discussion cycles taken together - for the different text groups.

Table 3. *Average number of cycles (T- + D-cycles) in articles from different fields*

	Economics	Medicine	Technology
Science			
S1	2.6	2.0	2.6
S2	3.6	1.8	2.0
S3	3.4	1.2	1.4
S 1-3	3.2	1.7	2.0
Popular science			
P1	2.8	4.0	2.4
P2	3.2	3.2	1.0
P3	2.6	2.2	1.0
P1-3	2.9	3.1	1.5

As Table 3 shows, the economic articles differ on average from the medical and technical ones; there is no tendency for the modern economic articles to be more straightforward than the older ones. For medical and technical science, there is, however, a clear tendency for the modern article to be thematically more straightforward over time. Worth noting is also a tendency for the greatest difference to be between texts from periods 2 and 3, especially among the medical articles. There is, further, a decrease in the average number of theme cycles in medical popular science articles from period 3 as compared to articles from period 2. For technical popular science articles, however, the decrease takes place between periods 1 and 2.

This diachronic change of the superthematic text pattern could be explained as a tendency towards a more homogeneous pattern. Another possible explanation is that it reflects a shift in foreign influence on Swedish article patterns, from German to American influence. In Gunnarsson (1990b) I discuss such a shift in relation to a study of the introductory parts in medical articles. In this study, the article introductions in modern scientific articles were found to show greater resemblance to English patterns than did those of older articles. I related our results to those presented in Clyne (1987), where he compared discourse patterns in German and English articles. One of Clyne's findings was that the German article was more of a content-digressive kind while the English article was of a straight, one-perspective kind.

A possible explanation to the shift found in the superthematic structure of Swedish articles is that it reflects a shift from German influence on our text patterns before the Second World War to American influence after 1945. I can also add that a shift in influence on our belief system on a more general level has been discussed by many historians (Liedman 1977).

5. Discussion

Through this second example of our text analysis in the Uppsala study I have described some changes of textual patterns over time as well as differences between texts of different genres. From a sociolinguistic viewpoint, changes in text patterns are reflections of changes in the contextual frames within which the text functions, and I will here sum up the results by relating them to the two hypotheses posed earlier concerning the correspondence between text and context.

The first hypothesis was 'Clearer genre boundaries', and the results presented here point to clearer genre boundaries for the scientific text genre. This genre has followed its own course of development. Scientific articles have become more purely scientific (in the positivistic science tradition, I should add), as we have found that theme development plays a larger role in scientific texts. In another study, where the pragmatic level was focussed upon, I showed that during this century the Swedish scientific article has become more purely informative, and more directed towards comprehension. Other types of thematic and pragmatic content have gradually decreased. The popular science texts have, however, changed less in these respects.

The second hypothesis was 'Firmer genre conventions', and I would here like to point to the more homogeneous character of the scientific articles. Articles from the three fields, economics, medicine and technology, were for example found to converge with respect to their superthematic structures. In relation to this hypothesis, I would also like to point to results from the pragmatic analysis within our project, which show an increase in the role played by metacomments related to text disposition in articles over our three periods (Gunnarsson 1990b).[7] Also, these results could be seen as reflections of a stronger awareness of genre conventions among the writers.

As to the linear thematic structure, the Swedish scientific article seems to have moved towards greater homogeneity, and in a direction that could be related to a shift from a German content-digressive type of text to an English straight, one-perspective type. The main shift seems to have taken place between periods 2 and 3, that is, after 1945.

Notes

1. The project team consists of myself as project director, Björn Melander, Harry Näslund and Björn Skolander.
2. A description of the material is given in Gunnarsson et al., 1987.
3. The analysis at the cognitive and microsemantic levels was made by Björn Melander and Harry Näslund in close collaboration. The analysis of the texts at the macrothematic and pragmatic levels has been carried out by Björn Skolander.
4. The model is described in Gunnarsson 1987, 1990a and forthcoming.
5. In Gunnarsson (1989) and in Melander (1989) the method for cognitive analysis is described in detail. Results from this part of our analyses are presented in Melander (1989), (1990), Gunnarsson (forthcoming). See also Melander's article in this volume.
6. For a description of our macrothemes, see Gunnarsson (1989:26-27).
7. Results from the pragmatic analysis have also been presented at the AILA World Congress in Greece, April 1990, and at ADLA's symposium on LSP in Copenhagen, Denmark in August 1990. The AILA 90 paper will appear in the following article: Gunnarsson, B.-L., Pragmatic and macrothematic patterns in science and popular science: A diachronic study of articles from three fields. Manuscript to Ghadessy, M., (ed), Registers of Written English II. Singapore.

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Main worlds and supplements

An attempt at using a qualitative approach to quantitative data

BJÖRN MELANDER

Abstract

One of the analyses carried out within the Uppsala study 'LSP Texts in the 20th Century' is an analysis of the cognitive text content. The basic part of this analysis is a classification of the text content into five different cognitive worlds, a notion that has similarities with the schema concept of cognitive psychology. The cognitive worlds - the scientific, the practical, the object, the private, and the external worlds - correspond to different contextual factors, mainly sectors of society. In this paper, results from an investigation of the patterns of distribution in the texts of these cognitive worlds are presented. Based on these patterns, a classification is made of the function in the textual structure of the cognitive worlds into four different types called main world, secondary world, excursus, and supplement. This model makes it possible to describe content patterns at a macrolevel and also to correlate these patterns to various contextual factors, thereby making it possible to relate text and context.

1. Introduction

A project called 'LSP Texts in the 20th Century' is currently being carried out at the Department of Scandinavian Languages at the University of Uppsala, Sweden. The aim of the project is to study both synchronic and diachronic differences between Swedish LSP texts from two different genres, science and popular science, and from three periods of time, 1895-1905, 1935-1945, and 1975-1985, within the fields of economics, medicine, and technology. The text corpus comprises 90 articles, five in each group of texts. The articles are on an average six to seven pages long and have been analysed in their entirety. (The material is presented in detail in Gunnarsson, Melander, and Näslund 1987.)

The analyses are directed towards the textual aspects that are relevant to the message structure of the texts. They focus, therefore, on deeper textual levels, namely the pragmatic and cognitive levels. One of the key parts of these analyses is a study of *the cognitive text content*.

The basic part of this analysis is a classification of the text content into one of five different types or *cognitive worlds*, a notion that has similarities with the schema concept of cognitive psychology. The cognitive worlds used in the analysis are the *scientific*, the *object*, the *practical*, the *private*, and the *external* worlds. These different worlds are all related to various factors in the social context of the texts that one has reason to believe influence their content patterns. (See Gunnarsson 1989a and 1989b for a detailed presentation of the analytical model and its theoretical foundations.)

The central elements of *the scientific world* are theories, classifications and experiments or observations of different kinds. A typical example of a classification is:

> (1) Men inte sällan ser man pneumotorax som resultat av diagnostiska eller terapeutiska åtgärder eller som komplikation till komplicerad eller avancerad lungsjukdom.
>
> [But pneumothorax is quite commonly interpreted as a result of diagnostic or therapeutic measures or as a complication of compound or advanced pulmonary disease.]

The practical world is characterized by the relation to the profession that is connected to each of the three fields, that is the work of the economist, the physician, and the technician. The description might concern things like diagnostic measures or treatments of diseases, or interaction between an expert and a layman, as in the following example, taken from a text dating from 1905, which is an account of a conversation between a doctor and a patient:

> (2) En 60-årig kvinna frågade jag för en kort tid sedan hänsynsfullt följande: "gumman har väl inte badat på 10 år?"
>
> [A short time ago I quite politely asked a 60-year-old woman the following question: "I suppose it must be ten years since you last had a bath?"]

The parts of the text classified as falling within *the object world* deal with the very objects of the different fields, for example a disease, a technical device, or an economic phenomenon. This example describes the economic situation in Sweden during the second world war:

> (3) Under tiden fram till och med aprilkrisen i fjol skedde andra och mera omfattande omflyttningar av köpkraft än de som förmedlades över budgeten.
>
> [During the period up to and including the crisis of April last year, substantial transfers of purchasing power were effected over and above those caused by the budget.]

The essential component of *the private world* is the individual person and the way he or she is affected by the phenomenon that is discussed. One may for example find descriptions of the consequences of a certain illness for a patient's private life or, as in this example, of the good results that an economical way of living is said to have upon one's inner life:

> (4) Den sparsamme är alltid förtänksam, och hans besparade medel skänka honom trygghet och ingifva honom en känsla af oberoende.
>
> [The thrifty person is always prudent and his savings provide him with a feeling of security and independence.]

Within *the external world*, finally, the relation is to public and social factors of different kinds. One type of relation is to various social conditions that might be of importance for the matter at hand, for example a proposed solution to an economic problem. Another type of relation is to social actions of different kinds, for example political decisions, as in this sentence, where the author recommends that a law regulating the treatment of tuberculosis should be introduced and points to Sweden's neighbouring countries as good examples:

> (5) I Norge finnes en verklig tuberkuloslag och i Danmark har regeringen nu framlagt lagförslag i liknande riktning.
>
> [In Norway there is a proper Act of Parliament dealing with tuberculosis, and in Denmark the government has just introduced a Bill of similar scope.]

In the cognitive analysis we have gone through the texts and classified the content of their different parts as falling within one of these different types. With the exception of certain formal headings, and supplementary material such as pictures, diagrams, and tables every part of the text has been classified as belonging to one single cognitive world. The categories used are thus totally discrete.

In order to get textual parts that can, at least to some extent, be understood without access to the context, in all the examples above I have chosen instances where a whole sentence has been classified as belonging to a certain cognitive world. The basic unit of analysis is, however, the *semantic content unit*, which is a concept that could approximately correspond to a proposition or a sentence atom (in Näslund 1989:11-12, a detailed description is given, see also his article in this volume). This makes it possible to do a very detailed analysis where even small shifts in the content are accounted for (in Gunnarsson 1989b:48-65 an example of an entire analysis of a text is shown). Perhaps it should be pointed out here that the fact that we have been working with such small units of analysis does not mean that we believe that the content units can be understood and interpreted in isolation. In the analysis we have, instead, tried to gain a grasp of the more global text content. Of course the parts of a text have a meaning only in relation to their context.

2. A qualitative approach

The close analysis of the texts has naturally produced a lot of data. In this paper I will present an attempt at using a more qualitative approach when analysing some aspects of these large sets of data. More precisely, I have tried to make a classification of the function of the content belonging to the five different cognitive worlds, based on the way it is distributed in the texts.

This classification is made on the basis of three different aspects. The first aspect concerns the tendency of the content units falling within a certain cognitive world to appear scattered in small pieces in several different parts of the texts or held together in a few large clusters.

In order to investigate this aspect, each content unit has been assigned a value indicating its relative position in the text. This value is simply the ratio of the consecutive number of the content unit in question and the total number of content units in the text. If, for example, a text consists of 1,000 content units, the final unit has been assigned the value 1,000/1,000, the middle one the value 500/1,000 and the first one the value 1/1,000. In this way, the position of all content units can be determined, and it is also possible to compare texts of different length.

Different measures of variability can be calculated on the basis of this value, for instance the standard deviation of the relative position of the content units belonging to a particular cognitive world. A high figure would then indicate a high degree of splitting-up. This method would not, however, give an accurate picture of the situation, since one would also get a high value where a certain cognitive world constitutes a large part of a text, although it may not be at all scattered, but instead held together in, for example, one single large cluster.

To create a more accurate measure, I have instead calculated the standard deviation that one would get theoretically if all content units of a certain cognitive world were completely evenly distributed in the text, in strings as long as their mean length in the total material. This theoretical value has then been compared with the standard deviation that one actually gets for the world in question. The difference between the theoretical value and the observed one has then been computed and finally the ratio between this difference and the theoretical value has been determined. This quotient could perhaps be called *the ratio of variability*.

In order to give a better idea of what these calculations represent, the distribution of the text content in one of our texts is illustrated in Figure 1. Along the abscissa are marked the content units (ranging from 1 to 851) and along the ordinate axis, the different cognitive worlds; from top to bottom the scientific (SC), the practical (PR), the object (OB), the private (PI), and the external (EX) worlds.

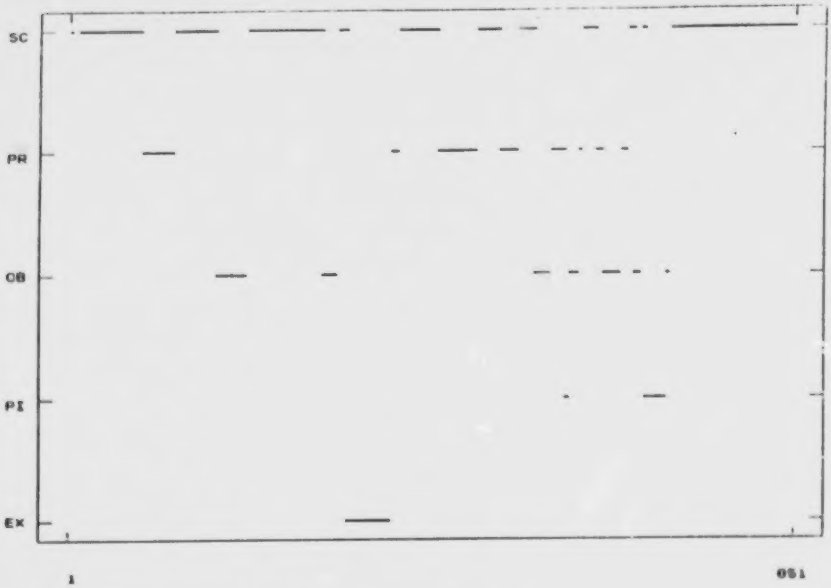


Figure 1: *Distribution of the different cognitive worlds*

In Table 1, the values of the theoretical and the observed standard deviations, the difference between them, and finally the ratio of variability (in percentages) are shown for the text in question.

Table 1. *Theoretical and observed standard deviation, difference between these values, and ratio of variability*

	THEORETICAL	OBSERVED	DIFFERENCE	RATIO
Scientific world	30.0	32.5	-2.5	-8.3
Practical world	32.6	22.2	10.4	31.9
Object world	36.2	23.2	13.0	35.9
Private world	17.3	4.6	12.7	73.4
External world	17.4	1.7	15.7	90.2

The private and the external worlds have the highest values for the ratio (73.4 and 90.2 respectively). This means that, in relation to the theoretical value, they have a small observed variability (and consequently a big difference), and, as is shown in Figure 1, the content units belonging to both these worlds are clustered in comparison with the ones falling within the three other worlds, which are scattered over larger parts of the text.

On the basis of the ratio of variability, a dichotomization has been made of the cognitive worlds into the types *clustered* and *scattered*. The limit between the two types has been set to a ratio of variability of 50% (which means that the observed variability is only half of the theoretically expected one). It cannot be denied that this limit is somewhat arbitrary, but generally it seems to be in accordance with the intuitive impression one gets from, for example, an illustration like Figure 1.

This is the first basis of classification. The second one is related to the fact that a certain cognitive world may be regarded as *dominating* different parts of a text.

From one point of view, a text can be seen as a chain of strings of content units of different types. If one follows a text from the beginning to the end, one sees that certain parts of the text are dominated by a particular cognitive world, while the other worlds are just small insertions into the bigger structure built up by the dominating world. In other parts of the text, one finds longer insertions of other cognitive worlds, insertions which add up to a more considerable change in the text content. One could say that the first type does not constitute a real change, because the small insertion is 'bridged' by the dominating world, while the second type represents a real shift in the cognitive text content.

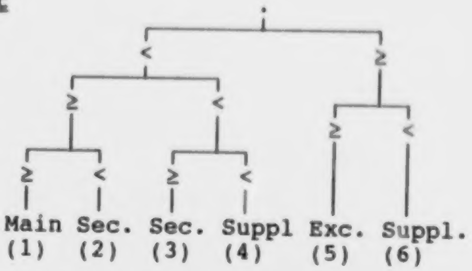
To determine which parts of a text can be said to be dominated by a certain cognitive world, the percentage that the world in question amounts to within this part has been calculated, following the strings of content units in the text from beginning to end. If the percentage of the world in question drops below 50%, due to a longer insertion of content units belonging to another world (or other worlds), this has been taken as indicating a major shift in the text content and the calculation has begun again from scratch at the next occurrence of this world. In this way, it is possible to calculate how much of the text is dominated by a certain world (that is where this world amounts to more than 50%).

The percentage of the text dominated by the world in question can then be compared with the percentage this world makes up of the text if one just counts the number of content units belonging to that particular cognitive world. Such a comparison shows that some worlds expand a lot compared to the original figures - which of course indicates that they bridge quite a lot of smaller insertions - while others expand very little or not at all (indicating very few bridges). This *rate of expansion* forms the third ground for classification.

In the example shown in Figure 1, the scientific world expands by 17% while all other worlds have small figures of expansion. This world also dominates a large part of the text (76% of the text is dominated by this world). The scientific world is thus scattered, dominating a large part of the text and finally expanding. It can be said to form the theme, basis or foundation of this text while the other worlds function more as supplements in the bigger structure constituted by the scientific world.

On the basis of the calculations just described, a general classification into four classes has been made of the functions of the different worlds in the texts. These four classes I have chosen to call *main world*, *secondary world*, *excursus*, and *supplement*. The following schema (Figure 2) has been used in the classification:

Basis of classif.	Limit
Ratio of variab.	50%
Part of text dominated by cog. world	50% 10%
Expansion	5%



Legend:
Exc. = excursus
Main = main world
Sec. = secondary world
Suppl. = supplement

Figure 2. *Schema of classification*

As can be seen from the schema, the worlds in the first group, *main world*, are scattered in our sample text, dominating more than half of the text, and expanding. These worlds make up the basic structure of the text. As mentioned above, the scientific world forms the main world. In this text, one also finds examples of two other groups, namely numbers 4 and 6. The worlds in group 4 are scattered but neither dominate the text nor expand. This means that they are spread in small chains in various parts of the text. In our example, the practical and the object worlds exemplify this group. Worlds with this distribution are classified as *supplements*. The remaining worlds, the private and the external worlds, both fall into group 6. Here are found the worlds that are clustered, but only make up a very small part of the text (less than 10% of the text is dominated by the cognitive world in question). Worlds with this distribution have also been classified as supplements.

The three remaining groups are not represented in the example. Of these groups, number 2 is extremely infrequent (only two instances in the total material) and will therefore not be considered here. Group 3 is made up of the worlds that are scattered and also expand, just like the ones that have been classified as the main world, but in contrast to the main worlds these worlds do not dominate more than half of the text. Group 3 worlds dominate some parts of the text but they are also sometimes interwoven with the base, and have been classified as *secondary worlds*. The last group, number 5, resembles the secondary worlds in as much as they also dominate a part of the text, but in this case almost all instances of the world are located in a relatively limited part of the text. They therefore form a kind of digression or excursus in the text and in accordance with this, they are classified as *excursus*.

This model for classification has generally worked very well. Of course, there are some instances of borderline cases, but the absolute majority of the worlds have fallen clearly into one of the categories. In most cases the distance to the limiting values has been clear.

3. Results

3.1. *Main worlds*

In Table 2, the number of instances of a certain world having the function of main world in the different groups of material is shown. In order to get higher figures and more unequivocal tendencies the figures for the scientific and the object worlds have been merged into one group and the figures for the remaining worlds into another. The three latter worlds are the ones that are the most 'open', taking into account things from professional life, from society in general or from private life, while the two former cognitive spheres are more 'closed'. Other results, for example regarding the collocational patterns of the cognitive worlds, have also shown that there is a close connection between these two worlds (Melander 1990).

Both within science and popular science, the 'closed' group increases over time within economics (1-1-3 for popular science and 1-5-5 for science) and medicine (1-3-4 and 2-3-4). The 'open' group shows a less clear-cut diachronic development, but the overall trend is clearly towards lower figures. The results thus indicate that these fields are subject to a development towards letting a more closed type of content form the basic structure of the texts.

Table 2. *Number of instances as main world*

Genre	Field	Period	CLOSED (SC+OB)	OPEN (PR+PI+EX)
Popular science	Economics	1	1	3
		2	1	2
		3	3	0
	Medicine	1	1	1
		2	3	0
		3	4	0
	Technology	1	4	0
		2	3	1
		3	2	2
Science	Economics	1	1	3
		2	5	0
		3	5	0
	Medicine	1	2	2
		2	3	2
		3	4	0
	Technology	1	5	0
		2	2	0
		3	4	0

Abbreviations: SC = scientific world, PR = practical world, OB = object world, PI = private world, EX = external world.

Within technology, science and popular science exhibit a different trend. Popular science shows an increase (0-1-2) for the open group and a drop (4-3-2) for the closed one, while the science texts have no clear diachronic development. This difference between popular science within technology and the other groups of texts is in accordance with other results obtained within the project, especially a rise in the percentage for the external world which characterizes the texts of technology in popular science (see Melander 1989a: 33-41).

There is probably no self-evident explanation for this deviant development within technology. Tentatively, however, I would like to suggest that it might be connected to a change of attitude towards technology. The present century, especially the post-war era, has seen an earlier enthusiasm for technology and a belief in technological progress give way, at least in part, to a more negative attitude (cf Eriksson 1986: 232, 303). It might be sufficient by way of example to point to the debate about environmental pollution. Factors like these may explain the fact that the external world more frequently functions as the main world in the popular science technology texts (cf Melander 1989b, 1989c).

The figures in Table 2 do not really add up to 90, which, as mentioned, is the total number of texts analysed. This is due to the fact that some texts, a total of 20, lack a clear main world. Of these 20, the majority - 13 - fall within popular science, a result which might indicate that the scientific texts are characterized by a stronger organization of the text content and a more marked focus on one single type of content within each text.

3.2. *Supplements, excursuses, and secondary worlds*

In Table 3, the figures for the supplements, excursuses, and secondary worlds are shown.

The figures are once again combined into two groups; the scientific and the object worlds on the one hand and the practical, the private, and the external worlds on the other, and also in other respects, the table is built up the same way as the preceding one.

First of all, one might notice that supplement is the most frequent type (a total of 239 instances) and excursus the most unusual (19 instances). The group secondary world has 63 occurrences.

It is mainly the second, the open group, of cognitive worlds that functions as the supplements in the texts. In all cases, this group has higher figures than the closed group. However, there seems to be a difference between economics and the two other fields in this respect. The difference between the figures for the two groups of cognitive worlds is smaller within economics (totally 20) than within medicine (totally 40) and technology (45). This divergence is stronger during the first two periods than during the last one. During period 1, economics has in total a difference of 4 and the value for period 2 is 5. Medicine has a total difference of 13 (period 1) and 14 (period 2) and the figures for technology are 13 and 19. The figures for period 3 are more even, 11 for economics and 13 for both medicine and technology. Maybe this indicates that economics has established a clear functional division of the different types of text content later than the two other fields, a fact that could perhaps be related to the comparatively short history of economics as an established academic subject.

Table 3. *Number of instances as supplement, excursus, and secondary world*

			SUPPLEMENT		EXCURSUS		SECONDARY WORLD	
			CLOSED (SC+OB)	OPEN (PR+PI+EX)	CLOSED (SC+OB)	OPEN (PR+PI+EX)	CLOSED (SC+OB)	OPEN (PR+PI+EX)
PS	E	1	5	7	1	3	2	0
		2	3	6	0	1	5	3
		3	5	10	1	1	1	1
	M	1	2	10	0	1	6	1
		2	4	11	0	1	2	2
		3	4	12	0	2	2	0
	T	1	3	10	1	1	2	1
		2	3	12	0	1	4	1
		3	5	11	0	1	2	0
S	E	1	4	6	1	1	3	1
		2	4	6	0	0	1	1
		3	3	9	0	0	2	0
	M	1	4	9	1	0	2	2
		2	5	12	0	0	1	0
		3	5	10	0	0	2	2
	T	1	4	10	0	0	1	0
		2	2	12	0	0	6	0
		3	2	9	1	0	3	1
TOTAL			67	172	6	13	47	16
			239		19		63	

Abbreviations: PS = popular science, S = science, E = economics, M = medicine, T = technology, SC = scientific world, PR = practical world, OB = object world, PI = private world, EX = external world.

The excursus is, as mentioned, a rather infrequent type. The closed group of cognitive worlds has very few instances (a total of 6) of this functional type. The occurrences within the open group of cognitive worlds are almost all located in popular science (of 13 in total, one finds 12 within popular science). This type of digression or excursus thus seems to be a characteristic of popular science.

The secondary worlds, finally, are mostly made up of the scientific and the object worlds (47 instances, while the three other cognitive worlds have 16 occurrences). The figures are relatively evenly distributed over the different groups of texts, and there are no clear differences between, for example, popular science and science, or between the different periods of time. This result further underlines the fact that the scientific and object worlds form the basic structure in the texts.

To conclude, one might say that this analysis of a corpus of Swedish LSP articles shows that different types of content seem to play different roles in the macrostructural content patterns of the texts. There are, however, clear differences both from a diachronic and a synchronic point of view, differences which can, at least to some extent, be related to various factors in the social context in which the articles can be placed. An analysis based on the cognitive world concept therefore seems to make it possible to get a better understanding of the relationship between a text and its social context.

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Identity relations and superthemes in Swedish LSP texts.

HARRY NÄSLUND

Abstract

An investigation of the distribution of identity relations in superthemes in Swedish economic, medical, and technical LSP texts shows that the frequency of the relations is different within various parts of the texts. As might be expected, identity relations in general are relatively infrequent in introductions. The (pure) identity relations are, on the other hand, comparatively frequent in the theme developments, probably the most homogeneous text parts as regards subject-matter, whereas the partial identity relations have their greatest share in the discussions, particularly in the economic texts, where the discussion parts are relatively theoretical. There is, thus, apparently a connection between the frequency of partial identity relations and the level of theory in the texts. Possessive relationships, which, especially in the medical texts, are often connected with individual human beings, have the highest percentage in the introductions and the discussions, which indicates that human beings are dealt with particularly often in these text parts. In the economic texts, however, the frequency of possessive relationships is highest in the theme developments, which suggests that, in many cases, institutions, e.g. banks, which are here relatively often referred to in the genitive or with a possessive pronoun, are dealt with in this part of the texts.

1. Introduction

The research project 'LSP Texts in the 20th Century' has been in progress at the Department of Scandinavian Languages at the University of Uppsala in Sweden since 1986. The project is headed by Britt-Louise Gunnarsson, who also elaborated its general theoretical framework.

The aim of the project is to investigate LSP texts from semantic and pragmatic points of view and to try to place them in their general and specific contextual frames. The text analysis approach is cognitive, pragmatic, macrothematic, and microsemantic (see Gunnarsson, 1987, 1989).

2. Material

The LSP texts which have been analysed are of two genres, science (written by experts for fellow experts) and popular science (written by experts for lay people), within the fields of economics, medicine, and technology. The texts are from three periods, 1895-1905, 1935-1945, and 1975-1985. For a more detailed description of the material see Gunnarsson, Melander and Näslund (1987).

3. Analyses

The cognitive and microsemantic analyses included 90 texts, i.e. five science texts and five popular science texts from each subject and period.

In this paper, I will deal only with certain parts of the microsemantic analysis in combination with some aspects of the macrothematic analysis.

3.1. *The microsemantic analysis*

Our microsemantic analysis is a reference analysis, directed towards the micro level of the text. It is less limited to the surface structure of the text and more cognitive than traditional cohesion analysis, e.g. Enkvist (1974), Halliday and Hasan (1976), and Källgren (1979).

The aim of this analysis was to investigate the semantic relations between words and phrases in the same sentence as well as between words and phrases in different sentences.

We have distinguished four main categories of semantic relation: (1) *identity*, (2) *extension*, (3) *description*, and (4) *causality*, each divided into subcategories. Here, I will confine myself to the identity relations, but a survey of all the relations analysed is presented in Table 1.

Table 1. *Semantic relations employed in the reference analysis.*

Main relations	**Relations**
Identity relations	Identity Partial identity Possessive relationship
Extensional relations	Expansion Diminution Parallelism
Descriptive relations	Main word Description
Causal relations	Cause Consequence Result

3.1.1. *Identity relations*

Among the identity relations we have, as noted in Table 1, distinguished identity, partial identity, and possessive relationship.

Since, as I have mentioned, our reference analysis is a cognitive one, identical reference is fundamental to our identity relations, whereas we consider form to be irrelevant.

By (pure) identity we therefore mean a relationship between coreferential words and phrases, even if the form is different. Thus, identity has been marked when a word is referred to in an identical form, e.g. *sjukdom(en) - sjukdom(en)* ('(the) disease - (the) disease'), and also when it is replaced by a pronoun or another substitute word, e.g. *sjukdom(en) - den* ('(the) disease - it') and vice versa. Also synonymy - the same reference but a quite different form - has been regarded as identity, e.g. *lungsot(en) - (lung)tuberkulos(en)* ('(the) consumption - (the) pulmonary tuberculosis') and vice versa.

Partial identity is the term used when a word has the same reference as part of a preceding compound, e.g. *tuberkulosvaccin(et) - tuberkulos(en)* ('(the) tuberculosis vaccine - (the) tuberculosis') and vice versa, when part of a compound has the same reference as a preceding word, of course also via a synonym or a substitute word. Compounds are very frequent in Swedish.

A possessive relationship is marked when a preceding noun or pronoun in the common case is referred to by a coreferent in the genitive form or by a possessive pronoun, e.g. *sjukdom(en) - sjukdom(en)s* ('(the) illness - of (the) illness'), *den - dess* ('it - its'). Possessive relationship is also used for relations in the opposite direction.

3.1.2. *Content units*

In connection with this reference analysis, each sentence in the text was divided into semantic content units, normally made up of a noun or a verb, sometimes with qualifiers.

After the division into content units, the semantic relations between each content unit and the various preceding units were marked where appropriate. The same content unit can, thus, have relations to various other units, but only one of each main relation, for example, within the identity relations, either (pure) identity, partial identity or possessive relationship.

3.1.3. *Results: the frequency of identity relations in the entire texts*

The scope of the investigation presented in this paper is the distribution of the identity relations in the different superthemes of the texts. The frequency of the microsemantic relations in the texts in their entirety have been accounted for in detail in a special report (Näslund, 1989) and will be presented here very briefly, just to give some background. Only differences between the three fields, economics, medicine, and technology, will be dealt with here.

Table 2 shows the frequency of the three identity relations in the texts in their entirety. All the values are percentages of the number of content units analysed with respect to reference relations.

Table 2. *Identity relations. Percentages of the total number of content units (N=105,867).*

FIELD	ID	PI	PO
Total	26.8	11.5	3.5
Economics	26.4	13.7	4.3
Medicine	26.5	8.7	3.4
Technology	27.6	12.1	2.7

Abbreviations: ID = (pure) identity
PI = partial identity
PO = possessive relationship

As is shown in Table 2, 26.8% of the content units have (pure) identity relations, 11.5% partial identity relations, and 3.5% possessive relationships.

As Table 2 also shows, the percentages accounted for by the (pure) identity relations are almost the same in all the fields, even if the figure is highest in the technical texts (27.6%). These texts seem to be the most internally homogeneous with respect to the contents. This has been shown in other parts of the analyses and presented in reports from the text project (Melander, 1989, and Näslund, 1989). The technical texts are very often about a particular device such as a generator, an elevator, etc. Such homogeneity probably explains the relatively high percentage of (pure) identity relations in technology, since the same concepts then occur many times in the same text.

Table 2 shows in addition that the partial identity relations have their smallest share in the medical texts (8.7%). This is probably connected with the fact that medicine is the oldest of the fields that we have been concerned with and, even during the first period of our investigation, there is, in these texts, an apparently well-established medical vocabulary, to a great extent consisting of Greek and Latin terms. This has been discussed in the report of the results of the reference analysis (Näslund 1989).

In economics and technology, the levels of partial identity are almost the same (13.7% resp. 12.1%). These two fields are relatively modern, and the development of the fields has given rise to new concepts that have been labelled with new terms, and, in Swedish, many of these terms have been formed by means of compounds.

In technology, these new concepts are very often related to different kinds of innovations, new or better technical devices or parts of these, whereas in economics, the new concepts are mainly due to the development of the field, very much expressed in the form of a raised level of theory. These interrelations have been shown in the report of the reference analysis results (Näslund 1989).

In Table 2, we can also see that the possessive relationships are less frequent in technology (2.7%) than in the other fields, which is not very surprising since these relations are very much connected with human beings, which has also been shown in Näslund (1989), and the technical texts deal very little with persons. By comparison, in the medical texts human beings are more often referred to, and the percentage of possessive relationships is consequently higher (3.4%).

The remarkably high level in the economic texts (4.3%) is very much related to the fairly high frequency of names of countries, institutions, etc. in these texts, since in Swedish such names are often expressed in the genitive or replaced by a possessive pronoun.

3.2. *The macrothematic analysis*

Along with the microsemantic and the cognitive analyses, the 90 texts have also been analysed thematically and pragmatically.

In the thematic part of the analysis, which is directed towards the macro level of the texts, the themes of the longer text parts have been distinguished as four superthemes - introduction, theme development, discussion, and conclusion (see further Gunnarsson, 1989).

3.3. *Identity relations and superthemes in combination*

To establish the distribution of the three subcategories of identity relations in the different parts of the texts, I have investigated how the relations are distributed over the various superthemes. Since some of the texts lack the superthemes of discussion and/or conclusion, these superthemes have been brought together, under the common term of 'discussion', so that almost all the texts have at least one text part with a concluding supertheme after the theme development. Thus, the three superthemes used in this investigation are *introduction* (I), *theme development* (T), and *discussion* (D).

3.3.1. Results: the distribution of identity relations over superthemes

It is not unreasonable to assume that the percentages of the distribution of the identity relations over the various superthemes will reflect some of the basic variation that exists between the entire texts of the different text groups (Table 2).

To get comparable figures for the levels in both different parts of the same text groups and the same parts of different text groups, the basic variation has been disregarded in Table 3 by giving the percentage of the identity relations in the entire texts of each text group the index of 100. This index thus implies that the frequency of a relation in a text part, classified as a certain supertheme, is exactly the same as the frequency of the same relation in the texts in their entirety, given in Table 2. Figures over 100 accordingly mean that the level of a relation in the text part in question is higher than the level of the same relation in the entire texts, whereas figures under 100 mean that the level is lower. All the percentages of the distribution of the relations over the various superthemes have simply been divided by the percentages accounted for by the same relations in the texts in their entirety and then multiplied by 100. If the percentage of a relation is, for example, 20% in the introduction and the value for the entire texts in the group is 25%, then the index for the introduction will be 20.0/25.0*100=80. All index figures have been rounded off.

Table 3 shows the index figures of the distribution of the three identity relations - (pure) identity, partial identity, and possessive relationship - over the text parts classified as the three different superthemes - introduction, theme development, and discussion.

Table 3. *Identity relations and superthemes.* Index figures show the levels of the three identity relations in the various superthemes compared with the levels of the same relations in the texts in their entirety (=100).

FIELD	IID	TID	DID	IPI	TPI	DPI	IPO	TPO	DPO
Total	92	102	97	85	102	103	100	100	106
Economics	90	103	92	74	101	112	93	105	98
Medicine	90	100	105	108	101	95	121	94	121
Technology	95	101	94	81	103	98	96	100	93

Abbreviations: I = introduction
T = theme development
D = discussion
ID = (pure) identity
PI = partial identity
PO = possessive relationship

As Table 3 shows, the greatest share of the (pure) identity relations is to be found in the theme development (102), whereas the smallest share is in the introduction (92) and the level in the discussion is in-between (97).

It is not very surprising to find the lowest level in the introduction. Here, many concepts are mentioned for the first time, so they cannot have any identity relations to previous concepts. This part of the text might also be more heterogeneous than the other parts (particularly the theme development), as far as text content is concerned, since the introduction refers to circumstances that constitute the background of the theme but do not necessarily have very many identity relations between them.

Neither is it remarkable to find the highest level of identity in the theme development, considering that this text part normally concentrates on the very object of the account, an economic problem, a disease, or a technical appliance, and it is therefore often likely to be the most homogeneous part of the text.

In the discussion, the scope is once again widened with aspects like explanations, recommendations, external consequences, and external actions, and that is probably one important reason why the level of identity is lower here than in the theme development.

If we look at the percentages in the different fields, we find that the relatively homogeneous character of the technical texts in their entirety (Table 2) is to some degree a matter of differences between the fields in the introduction, where the technical texts have a higher level (95) than the economic and the medical ones (90 for both groups). The introduction thus seems to be relatively uniform in the technical texts, which very often deal with only one device at a time.

The relatively high figure in the discussion of the medical texts (105) compared with the other two fields (92 resp. 94) seems to indicate that the medical discussions are more restricted in scope than the economic and technical ones.

As regards partial identity, Table 3 shows that the total figures in the discussion and the theme development are almost the same (103 resp. 102), whereas the level in the introduction is considerably lower (85).

This low level can certainly be explained in the same way as the relatively small share of (pure) identity in the introduction; in the beginning of the text, many new concepts are introduced and they do not necessarily have any identity relations to former concepts.

The somewhat higher level of partial identity in the discussion is probably partly attributable to the interrelation of partial identity and the level of theory, stated above. This level is probably often higher in a text part that deals with such abstract aspects as, for example, explanation, deduction, consequences, and problem solution, than in the more concrete parts, primarily the theme development.

When looking at the different fields, we can also see that the highest level of partial identity occurs in the discussion of the economic texts (112). In these texts in their entirety, the percentage accounted for by partial identity is the highest (Table 2), and here the interrelation between the partial identity relations and the level of theory, mentioned above, also seems to be the strongest. Since the discussion, as stated above, generally appears to be the most theoretical part of the text, it is therefore not surprising to find the clearly greatest share of partial identity in the discussion parts of the economic texts.

Considering what has already been said about the partial identity relations of the technical texts, it is not unexpected to find the highest figure here in the theme development (103), where some technical appliance or some part of it is described.

In medicine, we find lower levels in the discussion (95) and in the theme development (101) than in the introduction (108). To a great extent, the old vocabulary of Greek and Latin words mentioned before are probably used when referring to the various diseases or cases in the theme development and in the discussion, whereas the presentation of the background, with more theoretical elements, such as previous research, etc., in the introduction, seems to require an enlarged vocabulary, partly made up of new compounds.

When it comes to the possessive relationships, Table 3 shows that the levels are exactly the same in the introduction and in the theme development (100), whereas the value in the discussion is somewhat higher (106). These figures probably indicate that it is very much in the discussion that the phenomena dealt with in the theme development, such as an economic problem, a disease, and maybe also a technical appliance, are related to individual human beings or institutions of various kinds, which, as mentioned above, has been shown to favour possessive relationships.

If we look at the different fields, we can see that this is - as expected - especially true about medicine (121 in the discussion), where human beings also seem to be found in the introductions (121). The primary object of the medical text - the disease - is apparently more related to individual human beings in the introduction, e.g. the background situation, and in the discussion, e.g. the consequences, than in the theme development, where the disease per se is probably the main object of description.

In economics and technology, the possessive relationships are, as stated previously, less connected with human beings than in medicine. The high percentage in the entire economic texts (Table 2), where possessive relationships are often due to the names of various institutions, is very much concentrated to the theme development (105). This probably indicates that, in these texts, institutions such as banks, etc. are more often dealt with directly in the theme development than indirectly in the introduction and the discussion.

4. Summary and discussion

An investigation of the distribution of the identity relations over superthemes (Table 3) gives a great many results that show differences from the reference patterns of the entire texts (Table 2).

To start with, it is to be expected that the three identity relations have a relatively low frequency in the introduction where particularly many new concepts are brought into the text.

A clear difference between the (pure) identity and the partial identity relations is that the former are the most frequent, in general, in the theme development, whereas the latter have their highest frequency in the discussion part of several of the text groups. More than the other text parts, the theme development deals with the phenomenon in question and is, therefore, relatively homogeneous regarding subject-matter introducing few new concepts, while the discussion may be more abstract and therefore requires a more extensive and advanced vocabulary.

This seems to be especially true about economics, where the development of the field is very much seen in the form of a higher level of theory and a greater percentage accounted for by partial identity in the texts in their entirety. Technology, on the other hand, where the partial identity relations seem to be more connected with various kinds of new inventions, has its greatest share in the theme development, which is completely in agreement with what has been said earlier, since these innovations, which often require new names, are certainly more often described in this part of the texts than in the others.

In medicine, with its old Greek and Latin terms for the various diseases, which constitute the primary subject-matter of the texts and are dealt with in the theme development, the level of partial identity is higher in the introduction where, among other things, more theoretical aspects, such as previous research, are accounted for.

In economics and technology, both relatively new fields, this is not the case. Particularly in the older parts of our corpus there might not always have been so much and such complicated previous research to present.

As to the possessive relationships, their distribution indicates that the personal element of the medical texts is very much concentrated to the introduction and the discussion; human beings are apparently brought into the texts more indirectly, whereas the various diseases, the primary objects of the texts, are dealt with in the central theme development.

In economics, banks and other institutions are often dealt with in the theme development and thus seem to be the centre of interest in these texts.

To conclude, this kind of investigation of the identity relations in combination with the superthemes reveals some of the mechanisms connecting the micro and the macro levels of the texts.

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Conflicts and changes in textual norms

KJELL LARS BERGE

Abstract

The notion of 'textual norms' refers to socio-cultural conventions which prescribe how a text may be structured if it is to be accepted as 'well-formed'. Since well-formedness in texts is characterized by convention, different conventions may exist in a community, and they may lead to norm conflicts when used in actual text generation. In this article two examples of such norm conflicts are presented, and the consequences of the norm conflicts for the formal structure of these texts are illustrated. The two norm conflicts are also seen as examples of situations which may cause changes in norm systems.

1. Textual norms

The notion of "textual norms" (Berge, 1990) refers to socio-cultural conventions which define the "well-formedness" of a text. Such norms prescribe how a text should be structured if it is to be accepted as a "well-formed" text in a certain community, and in specific situations and types of situation in that communicative community.

2. Socio-textology

The study of textual norms is often ignored in modern textology, or substituted by the rather abstract and/or psychologically coined notions of "relevance", "acceptability", "situationality", etc. (de Beaugrande and Dressler, 1981). A shift away from these notions towards the notion of "norm" implies a shift from a cognitive and psychological approach to text studies to a sociological and semiotic approach. Textuality can then be studied as a cultural convention. In the words of Jan Mukarovsky (1970), one can classify norms both "as a fact of the so-called collective awareness", and "as a historical fact". I would prefer to name this approach to text-studies *socio-textology*.

3. The contrastive perspective

The socio-textological approach allows a *contrastive* perspective. One can study different textuality conventions in different cultures.

With this approach it should also be possible to study conflicts between different textual norm systems in a certain culture and in certain communicative situations in that culture. And it should in fact be possible to study how and why textual norms change, as a possible result of constant and insoluvable norm conflicts.

4. The system of functions

The variable of the textual system that I consider the most relevant in this contrastive approach is most distinctively located in the global level of a textual system, more specifically in the formal part of the global system, i.e. that structure which constitutes a *whole* of the different sememes in a text, by means of *functions* (as defined by Hjelmslev, 1976). I prefer to call this system *the functional system*.

5. Social field, communicative functions, and textual norms

So what do textual norms do? From my point of view the most important task for a norm system is to produce tokens or utterance texts that are the *means* whereby a specific *goal* in a specific situation is reached. A situation here is defined in terms of a *social field* (Bourdieu, 1986). A social field is defined as a scene where the communicators are striving towards a specific goal. The goal is symbolic capital, for instance the right to decide what a goal-adequate text is.

This goal is socially accepted and conventionalised, and so is the *communicative function* which relates the textual norm system to the goal. The norm system then prescribes both the communicative function and how the text tokens of the system should *normally be structured*, if the desired goal is to be attained.

What is implied here is the hypothesis that there exists *an internal, non-contingent causal relation* between the normalised communicative goal *G* in the social field *S*, the communicative functions *F* which are normalised to reach G in S, and those textual function structures *T* which are normalised as the means of F to reach G in S. These textual norms constitute the utterance text as a grammatically and semantically coherent text. This proposed causal relation can be expressed in the following way:

Figure 1.

$\underline{G_S \text{ -> } F_S \text{ -> } T_S}$

The causal relation shown here is of course an idealisation. For the relation to exist it is necessary that the goal and the function are static. And this is seldom the case.

Still, with this simple model it is possible to focus on conflicting conventions of textuality.

6. Two types of norm conflict

I am going to describe two types of norm conflict. In both these types I will show how the communicators typically solve the norm conflict in their utterances.

The first situation (6.1) is characterised by the fact that a completely new social field is constituted. And in this way new goals and functions are developed. The problem is then: how should texts be structured in order to effectively reach the goal? What we are witnessing in this type of situation is the mingling of older and dysfunctional norms, a situation where there is not as yet a conventionalised norm system.

The second situation (6.2) is typical of a situation where the goal and the communicative function can be interpreted in different ways, due to an uncertainty which is typical of the social field. The communicators are then in a way "free" to choose different ways of structuring the texts, depending on the interpretation chosen.

In both these situations there is a variation in how the utterances should be structured.

6.1. Example 1: New norms for a new type of social field?

In the first situation, where a completely new social field is constituted, the background is as follows: In 1771 the king of Denmark-Norway - or rather his prime minister - signed an act which abolished all forms of censorship on written and printed literature. Overnight a new type of social field was created, the so-called "public opinion". The capital that the communicators fought for in this social field was to receive "attention" for a specific cause from the absolute power, i.e. the king. The goal, then, was to influence the addressee - the king - so that he acted in favour of the addresser.

The communicative function in the field, then, can be defined as a certain type of *directive*. These directives were of an *appealing* type. In this way the relationship between addresser and addressee was inverted, since the addresser was subordinate in relation to the addressee. To receive attention from the king the addresser also had to gain acceptance of his version of reality in a *declaration*. This suspension of the king's prerogative right to define reality was one of the most revolutionary results of the act.

How should one express oneself in such a field? Older norm systems internalised by individuals who wanted to act on the scene of public opinion, and which were used in situations like this one, had suddenly become dysfunctional. The system could not produce utterances that could effectively reach the new goal: to obtain power by means of short written texts.

The utterance text which I have analysed (Berge, 1991) - "A dialogue between Einar Jermonsön and Reiar Randulvsön from Opland in the county of Aggerhuus in Norway" - is a political pamphlet which is quite typical of this situation. It was presumably written by some peasants in Norway. Even if we do not know its real author, the content of the text is representative of the peasants' interests. Besides, it is not written in Danish, but in a local Norwegian dialect. However, the lexico-grammatical structure is not pure. There is a considerable amount of interference. This interference is systematically related to the formal structure of the text.

The central problem in this new social field was that one had to invent new ways of expressing oneself in the written form. One could say that the quite radical use of a Norwegian dialect is an indication of normative change. If we study the formal structure of the text, we will find the same variation at the textual level. A superficial analysis of the linear aspect of the functional structure gives us this picture:

Figure 2.

Linear macrofunctions	**Hierarchical and other linear functions/ Content**
Introduction	1. The theme *T* is *presented* and *specified* in *T1, T2, T3* from perspective *P* (E1-E15)
Main part	2. P of T is changed to *P'* due to a *mythical argument* (R16-R29)
	3. New version of T: *T'* (R30-R34)
	4. *Descriptions* of certain facts from P' Proposals to the addressee: *T'1, T'2* (R35-E247)
Final part	5. Final proposal to the addressee: *T'3* *Moral* (E248-E257)

Legend: E= Einar speaking
R= Reiar speaking
1-257 = syntagmatic units

In Figure 2 the linear functional structure is illustrated in a rather naive way. I have used rather intuitive functional notions such as "presentation", "specification" "mythical argument", "description" to show the different functions of the content or theme.

But the formal structure of the text is more complicated than this simple model shows. The text has two properties which are not shown in this kind of model. Firstly, its *dialogical* structure. Secondly, its *layered* structure.

The dialogical structure is typical of the norm system that was used in the period. Dialogue is a genre that was extremely frequent in more popular political texts until the middle of the 19th century. Why? My hypothesis is that dialogue is a formal technique which couples the abstract with the concrete. A sort of instinctive concretisation of dialectics. At the textual level the use of dialogue means that the thematic turn-taking can be located to the different participants. And it is possible to locate the correct perspective to one of them. The addressee takes the role of the uninformed participant. In this way the dialogue functions as a didactic genre. The use of dialogue then indicates that the more abstract argumentative texts that we use today are a historical product, which demands a certain learning process which our author and/or his addressees had not gone through.

The other characteristic aspect of the text is its layered structure. The different layers of the texts are in fact different texts integrated in one overall structure. A text with a layered structure is a polylogal text, where at least one text is integrated into another in such a way that the first text can only be reached by way of the other text, without being hierarchically subordinated to it.

In the text six such layers can be found. In Figure 3 I have specified the different levels with the notions actors, relations between actors, place and time of situation, and act.

Figure 3.

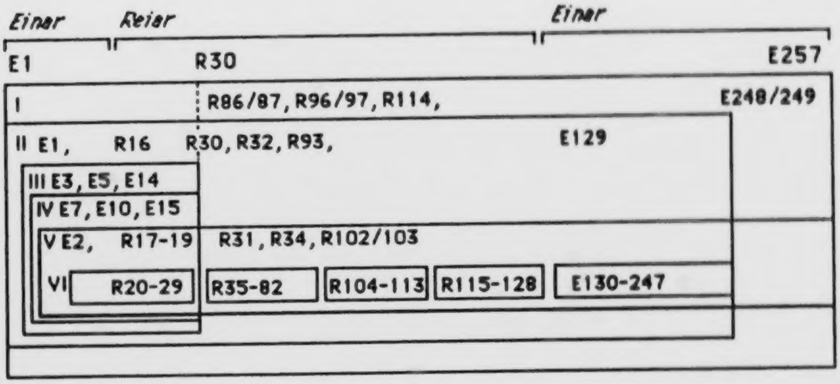
LAYER	ACTORS	ACTOR-RELATIONS	SITUATION		ACT
			PLACE	TIME	
I	Einar & Reiar	subordinate to superior	Copenhagen	1771	proposal to the King in public (ideal reader)
II	Einar to Reiar (+real reader)	equal	Opland in Aggerhuus	after last Sunday	conversation
III	The priest to Einar	superior to subordinate	the parsonage	last Sunday	report of conversation
IV	The priest (about T)	-	the parsonage	before last Sunday	report of the reading of letters and papers
V	Einar & Reiar (about T)	subordinate about superior	Opland in Aggerhuus	after last Sunday	narratives
VI	Peasants & officials	subordinate against superior	the county	after the introduction of the special tax in 1762	the peasants in conflict with the officials

What is important in my socio-textological perspective is that this layered structure is a way of solving a norm conflict. In the different layers different norm systems are integrated. For instance, it is possible to locate an indication of a norm system for narratives developed for spoken language at layer VI.

This hypothesis can be confirmed by focusing on the lexico-grammatical structure. The language of layer I is Danish or Danish-like and in rhetorical high style. In this layer the text is directed to the addressee, the king. In layer VI the text is written in dialect only, and its style is typical of spoken informal style. There are specific syntactic constructions located at this level, which are and were at that time very uncommon in written Scandinavian languages, but which seem to be restricted to the spoken variant of those languages.

In Figure 4 I have tried to relate the dialogical structure of the text with the layered structure. It should be noted that most of the text - in fact 76% of it - is located in the innermost layer. Amongst other things this indicates that possibly other addressees than the king were intended as well, for instance Norwegian soldiers stationed in Copenhagen. This explains the many narratives about officials, but also points to the uncertainty that the new situation had created. The public was certainly not a well-defined social group.

Figure 4.


Einar
Reiar
Einar
E1
R30
E257
I
R86/87, R96/97, R114,
E248/249
II E1,
R16
R30, R32, R93,
E129
III E3, E5, E14
IV E7, E10, E15
V E2,
R17-19
R31, R34, R102/103
VI
R20-29
R35-82
R104-113
R115-128
E130-247

This enables us to draw some conclusions. A new situation, such as the one we have studied, leads to changes and differentiations in a norm system, integration of different norms taken from different kinds of systems and possibly also innovation of norms. In our utterance text, the author had to integrate different norm systems because he had not internalised norms that better suited his purposes. This state of uncertainty could not continue but had to be compensated for by more stable norms. And that is what happened by the end of the century, when new cultural norms for the generating of effective textual utterances in the domain of public opinion were developed. And this new norm system was characteristic of the new class of rulers; the bourgeoisie. Ideologists from this group had a tendency to call this norm system the "natural" one (Rosted, 1810).

6.2. Example 2: The consequences of conflicting goals and communicative functions in a social field

The second conflict type is characterised by being a conflict between different ways of interpreting the purpose (goals and functions) in an institutionalised situation.

The situation I refer to is that of essay writing exams, the end and goal of thirteen years of composition exercises in Norway. In this situation the pupil is supposed to write a short essay as an answer to a question which is more or less specified, depending on the type of task. The pupil can for instance choose a literary analysis. The question will then be specified as "interpret the text x". Or he can choose a type of text analysis which is more pragmatic, and where the text to be analysed is not literary. In this last type of essay, the question will be more specified (Berge, 1988).

The conflicts of a situation like this is well known. The first problem concerns how to decide which is the goal of the social field. The second problem is how to decide the communicative function: The latter problem is a result of the first. And finally there is the problem of how to choose strategies for structuring the text, i.e. the potential conflict of norm systems. Let us take a quick look at these initial problems that pupils are faced with:

The goal of the situation is not clear. I would propose that at least three different goals exist in a situation like this one. Firstly, the concrete goal. That is to write the essay in such a way that one confirms the norm system of the real addressees, the examining commissioners. Secondly, the ideal goal. That is to write in such a way that the essay could be read by a wider audience as a real essay, for instance as an article in a magazine. Thirdly, to write in such a way that one writes according to some more or less specified rules of how a "good" essay should be composed.

The communicative functions of these three situations are not the same. In the first situation the communicative function could be characterised as *instrumental* and *practical*. The function of the second goal would be to present assertives and declarations, i.e. a *cognitive* function. And the function of the third goal would be *poetic*. The purpose of the text would then be to focus on the inner structure of the text, not on the situation in which the text is uttered or on the addressees of the text. If one believes - as I do - that abstract rules of quality cannot be described in universal or ideal terms, there would be an affinity between the first and the third function. Then the goal would be to confirm the aesthetic textual norms of the examining commissioners.

So how do the pupils in a schizophrenic situation like this one in fact compose their essays? If one generalises from quite a large corpus of utterance texts, one will find the following functional structure:

Figure 5.

Linear macrofunctions	**Hierarchical and other linear functions/ Content**
Introduction	1.Summary, Definition or Deleted (the question fills this position)
Main part	2. Exposition ("utgreiing") a. identification and description of a referent b. analysis of the identified referent c. a moral rule (presupposed in the question) is reached 3. Discussion ("dröfting") a. the moral rule is analysed from different points of view b. the moral rule is evaluated
Final part	4. Evaluation ("vurdering") the pupil confirms and vigorously supports the presupposed rule

I would propose that this rather standardised schema is the direct result of the extreme situation that pupils are forced to face. The schema is a norm system developed as a result of this situation. And the schema is institutionalised and naturalised thanks to its strategic position in a ritualistic situation, which the examination of college students in Norway certainly is.

If we take a closer look at a text produced in this situation (Berge, 1986), we shall find that the question in fact functions as a composing model of the utterance texts. In the illustration (Figure 6), the structure of the question is given on the left side and the structure of the essay on the right side. I should mention that this was a text that gained the highest marks in the examination, and the essay was published as being representative of this mark by the school authorities in Norway. The text is therefore an authorised token of the norm system.

Figure 6.

The question	**The essay**
	Introduction: Definition of the referent "uniformity" (monological text I)
Identify tendencies of uniformity in our society	*Main part:* monlogical text II,III,IV,VII
Describe their reasons	microsememes in monological text II,III,IV
Discuss how strong these tendencies are	monological text V,VI
which consequences they may have	monological text VIII,IX,X
	Final part: monological text XI (moral rule: "uniformity of society is bad", i.e. a presupposed rule is confirmed)

If one focuses on the lexico-grammatical level of a text like this, one will find hypercorrect adult-like language, over-representation of certain types of connectors (mostly of the implicative type) and poor harmony between modal operators in the utterances and those facts that the utterances are supposed to refer to.

The conclusion of a study of such a norm conflict situation would be that a potentially liberal situation in an institutional setting leads to the opposite of liberality: the strict standardisation of text structure according to a schematised norm system. This standardisation is of course also caused by the extreme characteristics of the situation: The fear of not getting a high mark, the shortage of time, and the complete unnaturalness of the whole situation.

7. Conclusion: Two types of normative change

As a conclusion I would like to argue that in these two situations we have witnessed two types of norm conflicts which may lead to two different types of changes in norm systems.

The first situation is typical of a situation which may lead to change in the norm system by *a functionality principle* (or principle of constitutivity) (Berge 1990: 39). In such a situation the norm system is viewed as a means, not an end.

The second situation is typical of a situation where the norm system can be changed only according to *a regulativity principle* (op. cit: 37). Here the norm system can only be changed by *an act of authority*. In such a situation the norm system is not evaluated according to functionality, but only according to correspondence with the norm system. The norm system is thus viewed as an end, not a means. Here the communication is in obvious danger of being reduced to a ritual.

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Sign, language and ritual. Contrastive discourse analysis of East German and Soviet TV news.

CHRISTIANE PANKOW

Abstract

The starting-point of this research is the idea that a certain relation exists between the culture-specific way of thinking on the one hand and the use of language in special contexts on the other, affecting not only the meaning but also the text structure. I want to create an interlingual text corpus representing a special type of text that appears in different languages and different cultures. It consists of the TV news from four different countries: Aktuelle Kamera (DDR 1, GDR), Tagesschau (ARD, West Germany), Vremya (Horizont, Soviet Union), and Headline News (CNN, USA). The goal is to chart text models of the TV news and their different indicators. I have shown in earlier work that different types of texts with special communicative functions tend towards syntactic-semantic patterning. I think this also will be valid for TV news texts. In this context, I use text type and text pattern as basic theoretical concepts in the classification of empirical data. Furthermore, I assume that some semiotic properties distinguish the text type TV news from others and that they exert normative influence on the linguistic form.

The goal of this analysis is not a context-free investigation of natural language, but a functional text analysis. The classification units are morphologically and syntactically determined and seem suitable for a semantic-functional interpretation of linguistic markers.

1. Introduction

I would like to mention at the start that the title above refers to a comprehensive research project for the empirical investigation of the texts of TV news broadcasts. The work on the text material has only just begun. In the present paper I will point out some difficulties that arise during the empirical investigation of a specific text corpus. Even at a very early stage I ran into a confusion of the empirical exploration of complex data and facts with the theoretical interpretation of these data and facts, a confusion that so far has not been sufficiently discussed. I will give a brief outline of the goal of my investigation.

The starting-point of this research is the idea that a certain relation exists between the culture-specific way of thinking on the one hand and the use of language in special contexts on the other, affecting not only the meaning but also the text structure (Eco, 1988: 189-194). I want to create an interlingual text corpus representing a special type of text that appears in different languages and different cultures. The corpus consists of TV news from four different countries: *Aktuelle Kamera*, East Germany, *Tagesschau*, West Germany, *Vremya*, Soviet Union, and *CNN Headline*

News, USA. The goal is to chart the text pattern of the TV news and their different indicators.

The building up of the text corpus itself involves a considerable amount of work. The material is based on video recordings of the abovementioned four TV news programmes, recorded during three week-long periods starting in May, 1989. The last recording was made in October, 1990. All in all, my corpus will consist of about 190,000 words of running text. A text corpus has the advantage of offering a finite amount of concrete linguistic utterances, able to serve as the empirical basis for investigation. However, there already exist a number of text corpora in various languages. What distinguishes my corpus from others, for instance, those used in the analysis of running text within computational linguistics (Ejerhed, 1988), are its particular pragmatic properties. It is an interlingual text corpus, representing a special text type. In this text type, linguistic patterns are influenced by very similar extralinguistic factors. The temporal separation of the recording periods allows me to show how changes in these extralinguistic text-constituting factors are reflected in the textual structure of *Aktuelle Kamera* and *Vremya*.

2. Theoretical considerations

The goal of my investigation is to work out a *text pattern* for each TV news, with significant text linguistic features. In this context, I use *text type* and *text pattern* as basic theoretical concepts in the classification of empirical data. The existence of text types as well as linguistic descriptions of them and differentiation of text types by means of linguistic criteria have been treated within text linguistic research, but no clear-cut criteria for distinguishing different text types have been developed. In brief terms, I see the main problem as residing in precipitated theorizing. Text types were prematurely abstracted from the empirical level, and at the same time, the analysis of "empirically given communicational processes, wherein ... knowledge of types plays a part" (Gülich, 1986: 17) was neglected.

Looking away for a while from text linguistics to other linguistic disciplines, namely those using quantitative methods in describing texts, we find a fairly clear concept of the communicative organization of language. I am thinking of statistical linguistics as a quantitative method for text classification and text typology (Pankow, 1978). So far, statistical linguistics has been most successful in LSP studies. The highest degree of success has been achieved in the investigation of scientific and technical sub-languages at the lexical level. As is well known, statistical linguistic research, which mainly concerns itself with LSP, divides language into sub-languages (Hoffmann et al. 1979: 156). So far, this theoretical approach has received little attention outside of LSP studies - unjustly so, in my view. To statistical linguists, special-purpose languages are so many sub-languages. This means that the various sub-languages of a language are characterized by different communicative content. Each text can be assigned to a sub-language according to its communicative content. As far as linguistic features are concerned, these are assigned secondary importance as criteria for the classification, i.e. within one and the same sub-language, a variety of linguistic feature structures can appear. It seems possible to me to place the concept sub-language on a par with that of text type. Also, each text type can exhibit different text patterns. This means that a text typology based on clear-cut criteria is not possible. Sub-languages and text types are variable communicative units.

One could also say that the classification of a language system into sub-systems or text types presupposes a classification of the world. The text linguist, out to describe a particular text corpus, has intuitively classified the communicative and partly the semiotic properties of his text material. I would like to illustrate this point as it applies to my TV news corpus. I will assume that the text type TV news exhibits some properties which I will henceforth term semiotic. (The reason for calling them semiotic will not be dwelt upon here.) Furthermore, I assume that these semiotic properties (Rozhdestvensky, 1975) distinguish this text type from others and that they exert normative influence on the linguistic form of the texts.

Figure 1.

SEMIOTIC FEATURE	TEXT					
	I	II	III	IV	V	VI
truth value	+	+	+	+	+	-
specific communicative intention	-	-	-	-	-	-
collective text producer	+	+	+	+	(-)	-
short period of validity	+	+	+	+	-	-
time and place constraint	+	+	+	+	-	-
text continuation	+	+	+	+	-	-
topical presupposition	+	+	+	+	(-)	(-)

I.	AKTUELLE KAMERA	(EAST GERMANY)
II.	TAGESSCHAU	(WEST GERMANY)
III.	VREMYA	(SOVIET UNION)
IV.	HEADLINE NEWS	(USA)
V.	SCIENTIFIC PAPER	(NONCLASSICAL LOGIC)
VI.	TOLSTOY: WAR AND PEACE	

It is easily seen that the TV news texts form a well-defined block of semiotic properties within the matrix, while the scientific text and the literary text are clearly separated from them. The selected semiotic properties are not universal in the sense of a text typology (if there is such a thing as a text typology); they are part of the basic assumption that certain extralinguistic text-constituting factors are reflected in text structure. In any case, it is all but impossible to show concretely which linguistic feature is called forth by a given semiotic property.

From the feature TRUTH VALUE follows that sentences with certain information content are not permitted in TV news. E.g., the sentence "Gorbachev is doing a tour of his Scandinavian colonies" is not only FALSE, but simply non-occurring in TV news. As far as TRUTH VALUE is concerned, the viewer is expecting only true information, a property which TV newscasts share with scientific texts, though the verification procedures for the two text types have differing pragmatic consequences.

The semiotic features COLLECTIVE TEXT PRODUCER, SHORT PERIOD OF VALIDITY, and TIME AND PLACE CONSTRAINT are in my view the ones chiefly responsible for the patterning visible in individual TV texts:

1. The TV text is produced and/or edited by several authors, who are generally unknown to the recipient. This collectivity and anonymity of the text producers tends to homogenize the linguistic means of expression in the texts. The linguistic form is shaped to a uniform pattern.

2. In contrast to other text types, TV newscasts exhibit the semiotic property of being temporally and spatially constrained. The broadcasts are received at a fixed point in time, and simultaneously by many recipients (the number of which remains limited).

3. The text is valid only at the moment of broadcast - after that it can no longer be used, at least not in its original function. It is no longer authentic.

3. Method

The analysis of the texts will be completed in two phases: In the first phase, to arrive at what are probably four significant text patterns, the running text will be rewritten using the following units of classification:

N	noun
NN	proper name, title
A	adjective
V	verb form

AD	adverb
K	conjunction
P	preposition
AR	article

The method of analyzing a running text morphologically, syntactically, and semantically originates within computational linguistics. However, the goal of my analysis is not context-free but should form the basis for a text-functional investigation. The suggested units of classification are morphologically-syntactically determined, but permit inferences into the functional-semantic field for the subsequent detection of pattern-marking features in news texts. The advantage of such a complete registration of the text corpus is that in this way, I can avoid having to make a subjective selection of apparently significant text features right away.

The discourse analysis of unrestricted text looks as follows:

> Den/AR/ konstruktiven /A/ und /K/ weitreichenden /A/ Initiativen /N/ der /AR/ Sowjetunion /NN/ für /R/ Frieden /N/, Abrüstung /N/ und /K/ Entspannung /N/ gelte /V/ die /AR/ volle /A/ Unterstützung /N/. (*Aktuelle Kamera*, May 1989)

After this, in the second phase, a quantitative analysis of the texts will follow, wherein e.g. frequency and distribution of the different classification units will be calculated. I will show a small sample from already executed classifications of running text. In particular, two recordings of the East German TV news (May '89, Jan '90), one West German (May '89) and one Soviet newscast (Jan '90) are striking.

(1) Aktuelle Kamera/East Germany (8 May, 1989)

...P-N-NN-NN-NN-NN-A-N-AR-A-N-AD-AR-N-P-A-N-V-AR-NN-NN-NN-AD-P-A-N-AR-N-AR-NN-N-P-N-AR-A-N-P-N-K-N-N-AR-N-K-N-P-AR-AD-K-A-N-PR-P-NN-A-N-V-AR-N-K-N-V-P-AR-N-AR-A-N-P-AR-A-NN-AR-NN-AR-NN-K-NN-AR-NN-AR-NN-NN-NN-P-PR-NN-NN-NN-NN-NN-NN-NN-NN-NN-NN-NN-NN-NN-NN-NN-AR-NN-NN-NN-NN-AR-N-AR-A-A-N-P-NN-NN-PR-P-A-N-NN-V-NN-NN-NN-NN-AR-N-AR-NN-N-P-NN-K-NN-NN-NN-NN-AR-NN-K-NN-AR-NN-NN-N...

(2) Aktuelle Kamera/East Germany (2 January, 1990)

...AR-N-AR-N-V-AD-K-P-N-AR-N-V-AR-N-V-P-AR-A-N-P-AR-A-N-P-A-N-P-P-N-P-NN-AD-P-A-N-V-NN-NN-AR-NN-N-P-AR-N-P-A-NN-N-P-N-PR-V-A-K-P-N-AR-A-A-N-A-N-A-N-V-V-NN-NN-NN-K-A-N-NN-NN-PR--V-P-AR-A-N-P-N-V-PR-P-A-N-P-AR-A-N-AD-V-P-PR-N-AR-A-N-P-A-N-V-P-N-PR-V-PR-AR-A-N-AR-N-P-N-P-AR-AD-A-N-V-PR-PR-AD-AR-AD-A-N-P-A-N-V-A-N-P-AR...

(3) Tagesschau/West Germany (8 May, 1989)
...N-P-A-N-V-AD-K-P-N-K-AD-P-N-V-AR-N-AR-N-V-A-AD-AR-N-AR-N-V-AD-
A-V-AR-N-P-AR-N-NN-V-PR-AD-P-N-AD-V-AD-K-AR-N-NN-N-V-V-AR-NN-
NN-V-A-N-V-PR-AR-N-NN-AD-V-V-AR-N-A-N-V-PR-K-AD-AR-N-V-AR-P-NN-
V-N-AD-P-V-A-N-V-PR-AD-V-K-AR-PR-P-AR-A-NN-N-AR-N-P-A-N-V-P-AR-
A-A-N-P-A-N-V-V-AR-V-A-N-P-N-V-V-AR-PR-AD-AD-AD-V-V-AD-V...

(4) Vremya/USSR (24 January, 1990)
...A-N-N-A-N-P-PR-N-V-N-P-NN-K-A-N-PR-V-P-N-V-PR-N-P-A-A-N-P-A-N-AD-
P-NN-A-N-A-N-N-P-A-N-V-AD-A-N-P-N-N-A-N-AD-V-P-N-N-AD-N-AD-V-V-K-
PR-V-V-AD-AD-N-V-P-PR-N-P-N-N-AD-PR-D-V-P-PR-N-V-PR-N-V-A-N-N-P-N-
V-AD-AD-AD-V-PR-PR-AD-AD-AD-AD-AD-V-P-PR-A-N-A-N-AD-P-PR-K-N-A-
N-AD-A-P-PR-A-N-A-N-N-A-N-P-N-PR-V-P-A-N-V-N-AD-V-N-PR-P-N-A-...

4. Preliminary observations

It is still too early to say anything about significant features. However, each broadcast is predicted to exhibit a significant pattern. At this point I would like to take up one interesting observation. The first recording of the *Aktuelle Kamera* is already a historic text. It will in all probability be possible to give it an unambiguous description with the help of a few characteristics. As is easily seen, in line after line we get almost exclusively the classes N and NN. The N-class includes all nouns, while the class NN includes proper names of people and places as well as titles. Even in the absence of quantitative measures to prove the point, we can say that the NN frequency seems to be above average. The use of proper names and titles in particular is strictly conventional and symbolic; symbolic, in that the proliferation of NNs represents political power; conventional, in that the use of NNs unambiguously identifies the text type. The use of names and titles was predetermined by an agreement within the collective author, i.e. governed by extralinguistic norms. This normative constraint is an important pattern-marking feature of text 1, while in text 2, this feature seems no longer significant. In any case, the frequency is clearly lower, even though it is higher than in texts 3 and 4. The Soviet news exhibits almost no NNs.

Together with the proliferation of NNs in text 1 there appears another feature, partly present also in text 2, the second sample of East German TV news. In the commentary, there is a high frequency of elliptical sentences, lacking either a finite verb or any predicate at all. An absence of Vs is partly demonstrable also in text 2, but far less so. This is not a feature governed by extralinguistic features, and appears only in conjunction with the proliferation of NNs. In texts 3 (*Tagesschau*) and 4 (*Vremya*) we seem to have the opposite: a domination of verbs and adverbs. It seems possible to bring out a polarization between abnormally frequent use of the N- and NN-classes on the one hand, and a high frequency of use of verb-adverb combinations on the other. The collective author apparently starts out from a *text template*, the pattern-marking features of which may be brought out through the investigation of a large text corpus.

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News discourse: The paratextual structure of news texts

FINN FRANDSEN

Abstract

This paper examines what I call the paratextual structure of news texts, i.e. the headline system (superheadline, main headline and subheadline) and the lead. In the first part of the paper I review T.A. van Dijk's 'new, interdisciplinary theory of news in the press', with special reference to the status and function assigned to the paratext. In the second part of the paper, I present an alternative theoretical framework. The fundamental hypothesis of this theory is that the paratextual units of news texts constitute a coherent and relatively autonomous microsystem, despite certain structural and functional differences, and that this microsystem is placed as a text strategic field ('threshold') between the sender and the receiver of the news text.

1. Introduction

One of the most characteristic features of research within text linguistics and discourse analysis in the eighties has been the growing interest in analysis of the news discourse of the mass media and particularly in the analysis of the textual and cognitive structures of the newstexts. This interest, to which the publication of several books, monographs and special issues of scientific journals bears testimony[1], distinguishes itself in a number of ways. Let me just underline two of them.

Firstly, it contains the possibility of an interdisciplinary collaboration between mass communication research on the one hand and discourse analysis on the other. A suitable task for such a collaboration could be an improvement in the quantitative and message-orientated content analysis which has been the method above all within the study of mass communication for nearly forty years, and which in my opinion is played out today.

Secondly, it indirectly contains a dissociation from the normative and puristic criticism which has all too often set its mark on the linguistic analysis of newspaper language and newspaper texts. This kind of criticism, which is as old as the press itself, partly explains why newspapers have not been researched to a greater extent, although news language and news texts are important factors in social communication and constitute an excellent instrument for language learning.

Thus, the current interest in the news discourse opens up new perspectives and contributes to a strengthening of the position of text linguistics and discourse analysis within the human and social sciences.

The most ambitious attempt so far to make an explicit, systematic and theoretically founded description of the textual structures of news discourse can be found in Teun A. van Dijk's two books: *News as Discourse* and *News Analysis*, both published in

1988. The theoretical framework proposed in these two books is a very important step towards a more detailed understanding of news text and the production and reception of news. But - as van Dijk himself admits - it is still only an outline of a theory which needs to be further researched, both theoretically and empirically.

My contribution to this NORDTEXT symposium consists of two parts.

In the first part of my paper I would like to present and criticize that part of van Dijk's "new, interdisciplinary theory of news in the press" (van Dijk, 1988a: VII) which concerns what I call *the paratextual structure of the news text*. The notion of paratext was introduced by Gèrard Genette in 1987 as a designation for the threshold that the reader of a literary work has to pass before he reaches the text in the proper sense of the word: that is, the title page, the name of the author, titles, dedications, epigraphs, prefaces, notes etc[2]. I am convinced that the notion of paratext - or at least the fundamental idea behind the notion - can be used with great advantage in the analysis of non-literary texts and in particular in the analysis of news texts. Thus in the following, paratext denotes the headline system of the news text (superheadline, main headline, subheadline) as well as the so-called lead.

In the second part of my paper I would like to outline some elements of an alternative theoretical framework which can explain the paratextual phenomena not covered by van Dijk's concept. The fundamental hypothesis of this theory is that the paratext of newspapers acts as a "threshold", and that this specific status has an influence on both the internal structure and the function of the paratext in relation to the text.

2. Van Dijk: *News as Discourse* (1988) and *News Analysis* (1988).

The research field to which van Dijk has devoted most of his efforts since the beginning of the seventies is the global organization of the discourse or the text - the organization that guarantees that a sequence of sentences or paragraphs is read as a coherent text or discourse at semantic, syntactic and pragmatic macrolevels. It is therefore natural that this field should also be central to his theory of the textual structures of news discourse and consequently to his concept of paratextual units such as headlines and leads.

According to van Dijk the paratext forms an important part of the two kinds of global structures that he operates with: thematic macrostructures and schematic superstructures. Although this theory of global discourse structuring is well known, I intend to outline van Dijk's concept, with special reference to the status and function assigned to the paratext.

Van Dijk defines *thematic macrostructures* as "higher-level semantic or conceptual structures that organize the "local" microstructures of discourse, interaction, and their cognitive processing" (van Dijk, 1980: V). The basis of this notion is the capacity of the language user to organize and reduce even very complex information units into one or a few macropropositions which the human memory can stock and recall. According to van Dijk, these macropropositions express the theme or topic of a whole text - in brief: "what the text is all about".

This organization and reduction of a complex quantity of information is governed by rules. Van Dijk enumerates three macrorules - the rules of Deletion, of Generalization and of Construction - which he assumes govern the creation of a macrostructure (a set of macropropositions) from the lexical, morpho-syntactic and textual microstructures (van Dijk, 1980: 46-50 and 1988a: 32). These macrorules are recursive; they can be applied again at a higher level of abstraction, provided there is at least one macroproposition, and as even a short newspaper article contains several themes or topics, the macrostructure usually gets a hierarchical form. The "highest" macroproposition in this hierarchy represents the most important, the most relevant and the most abstract information in the text concerned.

The status and function of the paratext in relation to the thematic macrostructures of the news text may now be defined as follows:

The paratext is a direct signal or expression in the linguistic surface structure of the theme or topic of the news text and functions in this sense as a summary of the text (cf. van Dijk, 1988a: 34, 35 and 36*).*

It must at once be emphasized that this wording cannot be found directly in van Dijk's two books. My formulation of his definition is constructed from various partial definitions. Besides, van Dijk is very cautious in his definition of the paratext. He considers the paratext as "a first important feature of newspaper discourse", but several times he modifies his definition using phrases as "may be" and "apparently".

Before we look upon the status and function of the paratext in relation to the schematic superstructures, we must raise a small problem.

In their book *Discourse Analysis* (1983: 106-114) Gillian Brown and George Yule have criticized the proposition-based representation of discourse content, and in connection with this van Dijk's theory of semantic macrostructures. One of the main points of their criticism, which builds on their own fundamental conception that it "is speakers and writers who have topics, not texts" (Brown and Yule, 1983: 68), may be summarized in the following way: what van Dijk is formalizing is not the content of discourse as such, but only one single interpretation. This interpretation cannot really be tested, but can only be challenged by another discourse analyst maintaining that his semantic representation of the content is different from that of van Dijk. And we have no grounds on which to decide which of the two is correct. Thus Brown and Yule conclude that: "There may, in fact, be no such thing as a single correct semantic representation for a text, if that semantic representation is treated as something which people have in their heads" (Brown and Yule, 1983: 114).

The criticism of Brown and Yule is directed against the early version of van Dijk's theory of macrostructures in *Text and Context* (1977), but in *News as Discourse* (1988 a) and *News Analysis* (1988 b) there appears to be no evidence for this criticism. Here van Dijk stresses, though not without some ambiguity, that themes or topics are assigned to a text by *strategic macrointerpretation by the language user* (van Dijk, 1988a: 33-34). As the macrorules do not only operate on the basis of text propositions, but also include world knowledge on the part of the language user, it means that the derived macrostructure may be subjective. Different language users may find different information in the text more or less important or relevant. A more precise definition of the theme or topic of a text would therefore be: "A topic of a text is a strategically derived subjective macroproposition, which is assigned to sequences of propositions by macroprocesses (rules, strategies) on the basis of general world knowledge and personal beliefs and interests. Such a topic is part of a hierarchical, topical or thematic structure - the semantic macrostructure" (van Dijk, 1988a: 34-35).

Van Dijk tries to account for this strategic macrointerpretation by means of the notion of *relevance structure*. The relevance structure "indicates to the reader which information in the text is most important or prominent" (van Dijk, 1985b: 70). To be more specific - according to the sender or enunciator of the text. The relations between the macropropositions of a hierarchical macrostructure are abstract and formal derivation relations: the ordering of macropropositions at each level is defined by the ordering of expressed propositions at the lower levels, that is by the order of propositions and sentences in the text. But these derivation relations do not tell us anything specific about the thematic realization. This thematic realization does not need to follow a "left-right realization". On the contrary, the text may by means of "various devices" (van Dijk mentions the linear organization of the text and the paratextual structure) express or assign different relevance values to the themes or topics of the hierarchical structure.

Thus, if we want to represent all the details of van Dijk's concept of the paratext, we have to reformulate the definition of the status and function of the paratext above:

The paratext is a direct signal or expression in the linguistic surface structure of the theme or topic considered to be the most relevant by the sender or enunciator of the news text, and functions in this sense as a summary of the text.

The thematic macrostructures are in many cases subjected to another organization principle. This principle arises from the *schematic superstructures* defined by van Dijk as "the schematic form that organizes the global meaning of a text" (van Dijk, 1980: 108-109). Although the superstructures do not have the same necessary status as the thematic macrostructures, but only a conventional one, the basis of this notion can also be said to be cognitive, as far as the superstructures are accepted, learned and used by the language users.

A schematic superstructure defines functional relations between semantic units at the syntactic macrolevel. Van Dijk asserts that some of these functional relations are conventionalized for certain types of discourse in certain societies or cultures, and that this conventionalization creates fixed formal schemas for the global content of these types of discourse, defined by a set of functional categories and specific formation and transformation rules.

On the basis of a large corpus of news texts, van Dijk asserts the existence of a fixed *news schema* used by both journalists and readers during the production and reception of news (van Dijk, 1980:121, 1988a: 52-57). If we ignore the paratextual structure, this *news schema* contains six main categories: Main Events, Consequences, Context, History, Verbal Reactions, and Conclusions. Each of these categories comprises superordinate- and subcategories.

Van Dijk stresses that the presence of all six categories is not necessary in order to have a minimally well-formed news discourse. Only Headline and Main Events are obligatory. Besides, the categories may be recursive; they may be repeated several times in accordance with the "installment character" which very often characterizes the thematic structure of a news text. Neither do the categories have to follow the established order: the relevance structure mentioned may use the superstructural transformation rules and change the order of the categories. In other words, the *news schema* has a highly elastic structure.

The status and function of the paratext in relation to the schematic superstructures of the news text may be defined in the following way:

The paratextual elements Headline and Lead are functional categories of the news schema and constitute the supercategory Summary. Headline is obligatory, while Lead is optional. Headline precedes Lead, and together they precede the other categories of the news schema. They constitute empty forms, which can be assigned *various meanings, provided these meanings summarize the most relevant theme or topic of the text* (van Dijk, 1988a: 39, 40, and 47).

3. Objections to van Dijk's concept of the paratext

My criticism of van Dijk's conception of the paratextual structure of news texts may be presented in the form of three objections.

The first concerns the status of the paratext. The theory of van Dijk implies that the paratext is considered as an *integral part of the text*. Without such a conception, he would not be able to propose his definition of headline and lead as expressing and summarizing the (most relevant) theme or topic of a text. But in my opinion, van Dijk thereby overlooks the most conspicuous feature of the paratextual structure of news texts, namely, its status as a linguistic "threshold" with functions in two directions at the same time. I shall return to this in a moment.

My second objection concerns the elements of the paratextual structure. Van Dijk does not deal with all the paratextual elements of the news text. The relations between the superheadline, the main headline and the subheadline, which very often form a joint system with specific features, are not discussed, neither are the internal subheadlines, which have a particular position within the paratextual structure.

The last, but also the most important, objection concerns the function of the paratext. According to van Dijk it is the function of the paratextual structure to *summarize* the (most relevant) theme or topic of the text. This conception carries conviction at first sight, and corresponds with a widespread idea of the function of titles in both literary and non-literary text. However, it becomes rather problematic when is applied to newspaper articles. In the first place, van Dijk does not state exactly what we are to understand by "summary" in this connexion, and his introduction of the notion of relevance structure does not make the problem less complicated. In the second place, one very often encounters paratextual structures that contain elements which cannot be explained as having a summarizing function (cf. Appendix 2).

4. An alternative theoretical framework

What we need is a theory which can explain both the examples covered by van Dijk's concept and the examples which exceed this concept. I shall now outline some elements of such an alternative theoretical framework.

The fundamental hypothesis of this theory is that the paratextual units of news texts constitute a coherent and relatively autonomous microsystem, despite certain structural and functional differences, and that this microsystem has a specific status in relation to the text regarded as a communicative event. In contrast to the traditional conceptions of the relation between paratext and text as either an integral part of the text (cf. Dressler, 1972: 18) or as a component outside the text having only a delimiting function (cf. Harweg, 1968: 156-157), I follow the conception formulated by Gèrard Genette according to which the paratext is a set of small textual units which are neither to be found outside nor inside the text: *the paratext is the threshold of the news text, placed as a text strategic field between the sender and the receiver of the news text* (Genette, 1987: 7-8).

This hypothesis is supported by a number of observations. Firstly, the sender or enunciator of the paratextual component of the news text is not identical with the sender or enunciator of the textual component (in the proper sense of the word). After writing his article, the journalist sends it to the subeditor who edits the text and provides it with headline and lead. Thus, the news text involves a pragmatic structure in two parts.

Figure 1.

THE JOURNALIST	*THE SUBEDITOR*
Sender 1	Sender 2
Enunciator 1	Enunciator 2
TEXTUAL COMPONENT	PARATEXTUAL COMPONENT

NEWS TEXT
(communicative event)

Secondly, the paratext is articulated in two different, overlapping semiotic systems: a linguistic-textual system consisting of those standards of textuality which all texts have to comply with, and a spatial-typographical system (the page-setting), which uses "visual variables" such as the size, form and colour of the letters, blanks, illustrations, etc. (J.-F. Tétu, 1982: 117-12). The description of this spatial-typographical system lies outside the task of text linguistics and discourse analysis and the use of it is not sufficient to define the paratextual component as such, as maintained by Gouazé (1979: 121). But it is an important and characteristic feature of the paratext of news texts.

Thirdly, the paratextual units present specific linguistic and textual features. Among these features I would like to mention the particular use of the present tense and of the definite article and its anaphoric function (Mouillaud and Tétu, 1989: 115-120). However we analyze and explain these phenomena, they underline the fact that the paratext has to be regarded as a relatively autonomous communicative level.

Within the limits of this alternative conception, it is now possible to describe and explain in a more satisfactory way the function of the headline system and the lead, which constitutes the most interesting aspect of the paratext from a text linguistic or discourse analytic point of view.

We may distinguish between three general functions which can all be specified further, according to the linguistic or textual means used by the sender.

Certain paratextual units (e.g. the main headline) may have a *designating function* in relation to the news text, i.e. that the paratext is able to designate or to refer to the text in the proper sense of the word and to function as a metalinguistic proper name at a higher semiotic level. Thus, the paratext has a double semiotic status: when it designates or refers to the same referent as the text, the paratext is *homo-referential*, and when it refers to another referent than the text (another referent = the text as a linguistic unit), the paratext is *hetero-referential*.

Next, the paratext - and this time all paratextual units are included - may have a metacommunicative function in relation to the receiver's reception of the news text. This function can be divided into a reception-creating function before the reading process and a reception-governing function during the reading process. The metacommunicative function has been described by psycholinguistics and cognitive psychology and does not in my opinion form part of the research field of text linguistics and discourse analysis.

Finally, the paratext may have an *interpretive function*, i.e. the function of the paratext in relation to the news text during its own production. Only the homo-referential paratext has this function, which forms the basis of the two other general functions. Thus, the homo-referential paratext may be conceived as *the result of an interpretive process realized by a specific sender/enunciator (the subeditor) in order to produce a strategic metacommunicative government of the communication established by the news text.* The description of the interpretive function of the paratext lies within the research field of text linguistics and discourse analysis, as both the starting point and the finishing point of the interpretive process are textualized.

The result of the interpretive function of the paratext may very well take the shape of a partial or complete summary of the following news text. Appendix (1) shows how superheadline and lead on the one hand and main headline on the other summarize (= sum.) central and hierarchically organized information (= 1, 1a, 1b) of the news text.

News text:
1) La Bourse de Paris a commencé la semaine sur une note de faiblesse...
1a) Les exercices se suivent mais ne se ressemblent pas à la Gèophysique /.../.
1b) Rien de très significatif n'a été observé du côté des hausses. Seule, la SAE s'est une fois de plus distinguée, avec un gain /.../.

Superheadline:
1sum.) La Bourse de Paris poursuit inexorablement sa baisse: - 0,94 %–

Lead:
1sum.) Avec un nouveau repli de l'indice Cac 40 (-0, 94 %), la Bourse de Paris est en passe d'effacer l'ensemble de ses gains obtenus depuis le début de l'année

Main headline:
1b sum.) La SAE toujours très entourée
1a sum.) Géophysique cède du terrain

In this case we have a summary which transforms both the linguistic form and the linearity of the text.

But the result may also have a completely different form. Appendix (2) shows e. g. that the lead does not have to summarize the following text, but is able to contain information not included in it (= 2). Main headline and subheadline summarize an important piece of information (= 1) in the text, but with a kind of comment contained in the Main headline (the intertextual reference to Samuel Beckett's play *En attendant Godot*).

News text:
1) La démocratie n'est jamais que la dictature de la majorité sur la minorité; d'ou l'idéal d'une monarchie constitutionelle. Après soixante-dix ans de dictature du prolétariat, la monarchie entraînera la formation de l'élite nécessaire pour combattre l'idéologie satanique /.../.–

Main headline:
1 sum.) En attendant le roi...

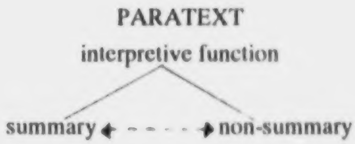
Subheadline:
1 sum.) Le parti monarchiste attend l'hypothétique retour d'une famille princière chassée en 1801 par les tsars russes

Lead:
2) Plus de 60 000 nationalistes géorgiens se sont rassemblés lundi soir dans un stade de Tbilissi /.../.

Thus, instead of defining the function of the headline system and the lead as a summary function, as we find in van Dijk (1988a, 1988b), it is in my opinion more useful to work with a functional typology, where the individual types are distributed on a scale. The extremities of the scale consist in two functional types: summary (Appendix 1) or non-summary (Appendix 2). Between these two extremes you will find a number of functional types where the headline system and the lead not only transform the linguistic form of the text, its linearity, and the distance between

Enunciator 1 and Enunciator 2 in the pragmatic structure, but also include new information not found in the text.

Figure 2.



Transformation of:
a) the linguistic form of the text,
b) the linearity of the text, and
c) the distance between Enunciator 1 and Enunciator 2

5. Conclusion

The elements proposed in Section 4 of this paper form no more than an outline of a theory which has to be developed theoretically and tested empirically. But I am convinced that my conception of the paratextual structure of news texts is stronger, if I may say so, than the conception formulated by van Dijk, and that it reflects more precisely this rather complex and often very surprising aspect of news discourse.

Notes:

1. Cf. T. A. van Dijk (ed.). *Discourse and Communication. New Approaches to the Analysis of Mass Media Discourse and Communication* (1985), M. Mouillaud & J.F. Tétu. *Le journal quotidien* (1989) and Metodos de analisis de la prensa. *Annexes aux Mélanges de la Casa de Velàzquez 2*, 1987, P. Mancini (ed.). A Special Issue on the Analysis of News Texts. *European Journal of Communication* Vol. 3-2, 1988 and P. Chareaudeau (ed.). La Presse. Produit, production, réception. *CAD - Collection Langage, discours et sociétés* .4, 1988.

2. Cf. G. Genette. *Seuils* (1987) and the special issue of the French literary review *Poétique* 69, 1988: Paratextes.

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APPENDIX 1.

Ex. (I)
La Tribune de l'Expansion

La Bourse de Paris poursuit inexorablement sa baisse : – 0,94 %

La SAE toujours très entourée Géophysique cède du terrain

Avec un nouveau repli de l'indice Cac 40 (– 0,94 %), la Bourse de Paris est en passe d'effacer l'ensemble de ses gains obtenus depuis le début de l'année

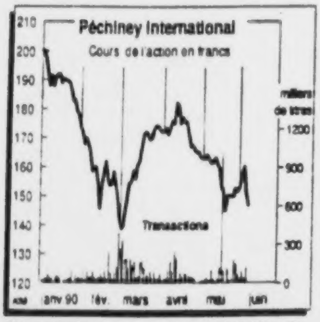
■ La Bourse de Paris a commencé la semaine sur une note de faiblesse. En repli de 1,18 % à l'ouverture, l'indice Cac 40 a par la suite limité sa baisse pour terminer sur un glissement de 0,94 %.

Les exercices se suivent mais ne se ressemblent pas à la **Géophysique.** Après avoir fait repasser dans le vert les bénéfices de sa société en 1989, Claude Sarrochi prévoit une perte pour le premier semestre 1990. Le titre a accusé le coup immédiatement, en abandonnant pas moins de 9,2 % à 1.135 francs dans un volume toutefois étroit de 7.950 pièces échangées. Claude Sarrachi ne désarme pas pour autant. Il met en avant des facteurs externes défavorables d'ordre politique, monetaire et saisonnier. Du coup, il prévoit pour l'ensemble de l'année en cours un bénéfice quasiment identique à celui de l'exercice précédent, à savoir près de 19,4 millions de francs.

Vallourec perd 10,4 % à 326 francs dans un marché de 50.000 titres. Au siège de la société, on ne fournit aucune explication. Une assemblée doit se tenir demain au cours de laquelle on ne doit rien annoncer de spectaculaire, d'après la direction.

Avec 70 % de ses ventes réalisées aux Etats-Unis, **Pechiney International** a fait les frais de la baisse du dollar. L'exercice 1990 se soldera inévitablement par une baisse des bénéfices, si l'on en croit les propos de Jean Gandois, qui attribue ce repli à la faiblesse du billet vert. Les effets sur le titre ne se sont pas fait attendre. Pechiney International a cédé 3,4 % à 146,8 francs dans un marché de 131.000 titres. Rappelons que Pechiney a dégagé en 1989 un bénéfice net de l'ordre de 1,27 milliard de francs.

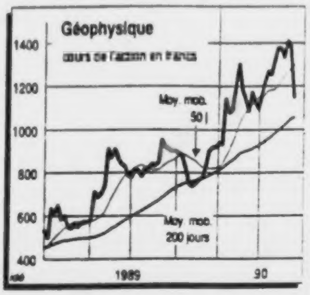
Après une saison jugée catastrophique par les professionnels, **Salomon** fait ses comptes. Le groupe spécialisé dans l'équipement de sports d'hiver affiche pour l'exercice 1989-1990, clos le 31 mars, une perte estimée à 90,7 millions de francs. L'action a abandonné hier 1,7 % à 1.405 francs avec 7.570 titres échangés. Pour autant, Salomon distribuera un dividende au titre de l'exercice 1989 de 22 francs (comme l'exercice précédent).



◊ Avec 70 % de ses ventes aux Etats-Unis, Pechiney fait les frais de la baisse du dollar : la croissance de ses bénéfices pourrait baisser dès cette année.

Rien de très significatif n'a été observé du côté des hausses. Seule, la **SAE** s'est une fois de plus distinguée, avec un gain de 2,3 % à 1.215 francs dans un marché nourri de 96.000 titres. Vendredi 2,4 % du capital avaient déjà changé de mains. Les désaccords persistent entre les cadres dirigeants de SAE et les projets du groupe Pelège qui détient 20,16 % du capital officiellement.

G. M.



◊ Après un exercice 1989 dans le vert, le président de Géophysique annonce une perte pour le premier semestre. L'action a perdu 9,2 % à 1.135 francs.

APPENDIX 2.

EX. (II)
Le Figaro

Géorgie

En attendant le roi...

Le parti monarchiste attend l'hypothétique retour d'une famille princière chassée en 1801 par les tsars russes.

Plus de 60 000 nationalistes géorgiens se sont rassemblés lundi soir dans un stade de Tbilissi où leurs dirigeants ont lancé un appel au refus du service militaire soviétique et à l'unité pour obtenir l'indépendance.

Ce rassemblement était organisé dans le cadre des cérémonies à la mémoire des « *martyrs* » tués un an auparavant par des soldats soviétiques lors de la répression d'une manifestation indépendantiste.

TBILISSI :
de notre envoyé spécial
Pierre BOCEV

A côté de l'entrée de l'immeuble pompeux, avenue Roustaveli, en plein centre-ville, on a tout juste eu le temps d'enlever la plaque. Aucun étranger ne soupçonnerait qu'il y avait ici, il y a deux mois encore, l'Institut du marxisme-léninisme du PC géorgien.

Signe des temps, les chefs ès idéologies ont cédé leurs bureaux du rez-de-chaussée, tout au fond du couloir, au parti constitutionnel monarchiste. Teimour Jorjoliani, président de cette formation qui se dit forte de 7 000 adhérents, n'a lui-même rien d'un descendant royal. En jeans et veston de toile, on lui donnerait plutôt le profil d'un bon prolétaire. Son « secrétaire politique » à la barbe broussailleuse, Gueorgui Khonolidze, ne ressemble pas davantage à un membre de la famille des Bagration, les princes géorgiens exilés depuis « *la première annexion* », par la Russie, en 1801.

« *Notre idée est de faire un parti conservateur* », explique le président. Au mur, des taches claires indiquent nettement l'endroit où devait se trouver le portrait de Lénine, peut-être de Staline, en Géorgie, on ne sait jamais. « *Nous voulons construire sur les bases du traditionalisme et redonner à chaque Géorgien le bonheur non seulement de l'indépendance, mais de la grandeur d'antan.* »

« Une loi cosmique »

Comment, de là, en arriver à l'idée monarchique. Levon Kiladze, astrologue de son état, se fait fort de le montrer. « *La démocratie n'est jamais que la dictature de la majorité sur la minorité ; d'où l'idéal d'une monarchie constitutionnelle. Après soixante-dix ans de dictature du prolétariat, la monarchie entraînera la formation de l'élite nécessaire pour combattre l'idéologie satanique. La lutte des forces de l'ombre contre celles de la lumière se poursuivre, c'est une loi cosmique.* »

Le parti a été créé au lendemain du massacre du 9 avril. Guergui Bagration, le roi en puissance, réside à Malaga et aurait exprimé son soutien « *récemment* » dans un télégramme à ses sujets, à la fois monarchistes et révolutionnaires.

« *Nous sommes forts et nous le deviendrons encore plus*, affirme le président Jorjoliani. *Notre première tâche, pour l'instant, est de nous opposer aux élections que veut organiser le régime.* » Pour un parti monarchiste, c'est bien la moindre des choses que de récuser un scrutin.

P. B.

Polyphonic structure

KJERSTI FLØTTUM

Abstract

This paper presents some aspects of the polyphonic theory, which contests the idea of the unique speaking subject and claims that several voices can be manifest in one utterance. The theory is related to the analysis of a coherent text consisting of several utterances.

The aim is to find out to what extent this theory can contribute to the issue of hierarchisation. If there is one voice that is stronger than the others, this voice or point of view can be characterized as the most important one, and situated at the top of the information hierarchy.

The notions of enunciator, speaker, enunciation and utterance are defined in polyphonic terms, and the relations between the speaker and the enunciator(s) will be particularly studied in order to develop a basis for the polyphonic interpretation of text.

1. **Introduction**

The theme of this symposium, discourse structuring - reception and production strategies, has been one of the main preoccupations of my research for some years. When studying the summarizing of texts, I have naturally had to deal with reception as well as production strategies. The text producer uses certain strategies which the receiver or interpreter must understand in order to summarize the text. The result of this process, the summary, is then one possible realization of reception strategies. (See Fløttum, 1988.)

In this paper I shall not be concerned with summarizing *per se*; but the aim of the discussion I undertake is to contribute towards a coherent theory of text summarizing.

I shall look into the theory of polyphony in the way it has been established linguistically by Oswald Ducrot (see Ducrot et al. 1980, Anscombre & Ducrot, 1983 and especially Ducrot, 1984) and elaborated on by Henning Nølke (see Nølke, 1989). A presentation of some aspects of the theory will serve as a starting point for an attempt to analyse the polyphonic structure of a text. In the discussion I shall relate the results of the analysis to the issue of summarizing.

This presentation clearly represents a report on work in progress. It is the very first attempt at a polyphonic analysis that I have undertaken, and it obviously has to be further developed.

2. The theory of polyphony

The notion of polyphony was introduced by the Russian Mikhail Bakhtin. He wanted to designate a new way of looking upon literature (a new perception of literature).

Bakhtin primarily uses the notion in the analysis of novels written by Dostoyevsky (Bakhtin, 1970 and 1978, written in the 1930s). His main point is that in the texts he discusses there is no unique and objective world which has emerged only through the consciousness of the author. In reality there is a multitude of minds, or rather a multitude of **voices** that are woven together in the text. According to Bakhtin, everything we say is linked to something that has been said earlier. What we express is often a reaction to what others have expressed, a reaction where we add something ourselves. (Only Adam could, for a while, escape from this dialogical orientation of speech. He could start from zero!)

Several questions arise as to a possible application of this theory within the field of discourse structuring. In my opinion, one of the most important questions in this context is the following: How are the voices **manifested** in the discourse or in the text? This question leads us to the linguistic development of the polyphonic theory by Ducrot (to some extent in cooperation with J.C. Anscombre).

Ducrot (especially Ducrot, 1984: 171ff) has developed Bakhtin's notion of polyphony in a way that makes it very useful in linguistic contexts. While Bakhtin understands polyphony as a phenomenon that exists whenever several voices are present, Ducrot claims there is polyphony only when the speaker does not identify with all the voices that are brought on the stage of discourse.

For Ducrot the notion of polyphony is particularly important to give us an escape from an idea that has dominated modern linguisics, in structuralism as well as in generative transformational theory, for a very long time. It concerns the notion of the **uniqueness** of the speaking subject. With a polyphonic conception of meaning, Ducrot wants to demonstrate how utterances can signal the presence of several voices, and not only the voice of the speaking subject.

One of the questions Ducrot poses is: Do characteristics normally given to the speaking subject have to be connected with one and the same person? In other words, is the speaking subject the only one that can be responsible for the production of the utterance and the realization of the illocutionary act, for example, and is he always the one referred to by the pronoun *I* (identity between I and the speaker)? For simple utterances this may seem acceptable. But according to Ducrot, in other and more complex contexts, the polyphonic interpretation is favoured or even imposed. (See Ducrot et al. 1980: 46ff, with examples of polyphonic expressions such as "à ce que dit X", "il paraît que" and the tense "le conditionnel".) When it comes to utterances in a complex context, it may be difficult to maintain the thesis of the unique speaking subject. Here we can often distinguish between several subjects or voices. The thesis defended by Ducrot posits that one has to distinguish between at least two types of characters. According to him, this is indispensable in order to get the complete meaning of the utterance (cf. "le sens de l'énoncé", Ducrot, 1984: 193). These characters are **the speakers** ("les locuteurs") and **the enunciators** ("les énonciateurs"), (see definitions below).

Let us look at one of Ducrot's examples, from the play *Britannicus* by Racine (Act 1, Scene 1). Agrippina speaks ironically of what her confidante Albine thinks about Nero (Albine admires the independent behaviour of Nero):

> Et ce même Néron, *que la vertu conduit*,
> Fait enlever Junie au milieu de la nuit.
> (Ducrot 1984:204, my emphasis)
>
> (And the same Nero, *who is guided by virtue*,
> has Junie taken away in the middle of the night.)

This is an example where the speaker is clearly communicating another voice in addition to her own. The utterance, especially the relative clause, is meant to express Albine's point of view (presented as ridiculous) and not Agrippina's. It is also clear that all the first person marks in the rest of the monologue refer to Agrippina. Thus, there are two voices or **enunciators** manifested: One which can be associated with the speaker (which is responsible for the words of the utterance) and one which is only expressed through the speaker. So the speaker is not unique!

Although there are no explicit words or marks of the different voices, we know by the context that polyphony is present.

To undertake polyphonic analysis, we need a presentation of some of the theoretical notions of Ducrot. This part is very much inspired by Nølke's well-written introduction to, and development of, Ducrot's theory. (Nølke has also written numerous articles on subjects related to the theory of polyphony.)

Both Ducrot and Nølke make clear distinctions between the enunciation, the utterance and the sentence:

enunciation: an historical event, in which the utterance appears,
utterance: the result of the enunciation (observable),
sentence: an abstract unit underlying the utterance. (Nølke 1989:15)

I shall not pay much attention to these different levels. I use them only to clarify the distinction between speaker and enunciator. Let us look at the definition of these categories:

Speaker: the one who, at the utterance level, is responsible for the enunciation (typical linguistic mark: the first person pronoun).
Enunciators: the ones who are responsible for the points of view communicated by the enunciation, expressed in the utterance. (The enunciators express themselves in the enunciation, but not always by means of precise words.)

Nølke also distinguishes between different **discourse individuals** ("diskursindividerne", see Nølke 1989:15-16). These are the individuals that can be made responsible for the expressed points of view in the discourse, or, in other words, they are linked to the enunciators. The discourse individuals are the speaker, the receiver and others that can be introduced into the discourse (individuals as well as groups of individuals). For practical reasons, **the speaker** will be the only discourse individual studied in the analysis which I shall undertake further down.

If, like Ducrot and Nølke, we look upon each utterance as a play in the theatre, we can say that the speaker presents a lot of actors (enunciators) who express different points of view in relation to the subject treated. (See Nølke 1989:16.) In other words, the speaker presents a number of different voices. Thus, it is vital to the interpretation of the utterance that one can determine the relations between the different actors (enunciators) and the discourse individuals (DI). The three types of relations mentioned by Nølke are (Nølke, 1989: 16):

- **adherence**: the DI (discourse individual) **adheres to** or **identifies with** a point of view (expressed by an enunciator);
- **acceptance**: the DI **accepts** a point of view provisionally, even if he/she does not assert it on his own account;
- **dissociation**: the DI **dissociates** himself/herself from a point of view.

The polyphony phenomenon is important in its own way: it contributes to explaining the troublesome notion of meaning. But in this particular context I want to relate polyphony to the problems of summarizing. Since summarizing is to a large extent a matter of hierarchical organization of information, one of the most important questions must be: Which of the voices presented is the most important and how is it explicitly marked? I shall look into this in the following part.

3. **Polyphonic analysis of a text**

Ducrot's main contribution is the study of the polyphony of isolated utterances. However, Nølke tries to apply the theory to a brief passage of text. He claims that the polyphony is a factor of coherence (the interpreter expects a certain degree of coherence among all the voices; see Nølke, 1989: 52).

One of the reasons for my interest in the notion of polyphony is the opportunity it offers for a hierarchical organization of information in texts. This leads us straight back to the issue of summarizing. A certain hierarchical organization of information is absolutely necessary in order to summarize a text. There are many kinds of analysis which can be of great help in this context. It suffices to mention analyses of macrostructure, superstructure, isotopies, etc. (see Fløttum, 1988, Fløttum, 1989 and van Dijk, 1980). With a polyphonic analysis, however, we enter a new dimension of text structure. It seems reasonable to assume that the different voices manifested in a text must be uncovered, if we are to get hold of the complete meaning. And if a possible polyphonic structure can say anything about the hierarchy of text information, we have learned a great deal about the problems of summarizing texts.

I shall propose the following hypothesis: The voice (or point of view) which the S (speaker) **adheres to** is the strongest (or the most important) one, and therefore the one to be retained in the summary. The one the S **dissociates** himself/herself **from** is the weakest (or the least important) one, and the one to be left out in the summary. The relation of **acceptance** occupies a mid-position (when the S accepts a point of view without taking any responsibility for it).

After having analyzed the text, I shall compare the analysis with a model summary of the same text. This will be a kind of verification of the analysis.

The text that will be analysed here, *La famille en danger* ("The family in danger", see Appendix at the end of this paper), is an argumentative one. According to Nølke, the typical argumentative text is highly polyphonic, while the descriptive text, for example, is less so (Nølke, 1989: 52). The text *La famille en danger* deals with the institution of the family and the discussion about it. Although contested, the conclusion of the text is that, as an institution, the family has survived better than many others.

In the analysis, I shall only comment on a few passages with explicit polyphonic elements. For practical reasons, the text has been divided into numbered sequences. The enunciators are progressively numbered (e1, e2 ... en), although there is some coherence between them. The coherence that I shall look into here is the one that is possibly found between an enunciator and the speaker (S). My polyphonic analysis can be presented as follows:

I. Polyphonic element: negation

5) La contestation (6) *ne* date *pas* d'aujourd'hui.
6) dont la famille est l'objet

e1 - La contestation ... date d'aujourd'hui.
e2 - What e1 says is wrong.

S dissociates himself from e1 and adheres to e2. The dissociation is marked by the negation.

This way of analysing the syntactical negation represents the most classical one in polyphonic context.

II. Polyphonic element: the verb *paraître*

7) La nouveauté *paraît* surtout résider dans le fait
8) qu'on en parle plus librement que jadis
9) et que l'irruption de la vie sociale dans la vie familiale - notamment par le canal des mass média - a rendu les conflits plus aigus.

e3 - La nouveauté réside surtout dans le fait ... conflits plus aigus.
e4 - What e3 says can be true.

S dissociates himself from e3, and accepts e4 (without taking any responsibility for it). The dissociation is marked by the verb form *paraît*.

I must admit some hesitation as to the analysis of the verb *paraître* in this context. I am not convinced that the relation between the S and e3 is one of dissociation (maybe it is more of an acceptance). But since I have no other analysis to put forward, I will stick to this one, which resembles the one Nølke presents of the expression *il paraît que* (Nølke, 1989: 21-22).

In the next passage analysed we shall see another example of this verb.

III. Polyphonic element: the verb *paraître*

10) Sans cesse annoncée pour demain,
11) la fin de la famille *paraît* encore, aujourd'hui, fort **hypothétique**.

e5 - La fin de la famille est ... fort hypothétique.
e6 - What e5 says can be true.

S dissociates himself from e5 and accepts e6. The dissociation is marked by the verb form *paraît*.

From a polyphonic point of view, this is a more complex utterance than the previous one. But for the reason expressed above, I shall not go deeper into the analysis here.

IV. Polyphonic elements: the connectors *certes* and *mais*

12) Les mentalités évoluent, *certes*,
13) *mais* moins vite qu'on ne le dit parfois.

e7 - Les mentalités évoluent.
e8 - Les mentalités évoluent aussi vite qu'on le dit parfois.
e9 - Les mentalités évoluent moins vite qu'on ne le dit parfois.

S accepts e7 (marked by *certes*), dissociates himself from e8 and adheres to e9 (marked by *mais*).

The polyphonic structure that *mais* introduces is specified by *certes*, i.e. *certes* restricts the concessive structure as to the possibilities of what can be put into it. In this example it shows that the speaker has an open mind. He presents another point of view than the one he adheres to (but without taking any responsibility for it).

V. Polyphonic element: the connector *méme si*

17) ...la famille reste la cellule de base de la société,
18) *méme si* certaines de ses fonctions ont changé.

e10 - La famille reste la cellule de base de la société.
e11 - Certaines de ses fonctions ont changé.

S adheres to e10 and accepts e11. The restriction put on e11 in this concessive structure is marked by the connector *méme si*.

The kind of concessive structure presented here could of course be more deeply analysed (for example the conclusions to which the utterances lead; see Nølke, 1989: 55-56), but this is beyond the scope of the present paper.

VI. Polyphonic element: the connector *en effet*

19) Que la famille ait changé,
20) *en effet*, nul ne le conteste.

e12 - La famille a changé.
e13 - La famille n'a pas changé.

S adheres to e12 and dissociates himself (together with "all the others") from e13. These relations are marked by the connector *en effet* (and the expression *nul ne le conteste*).

However, this is a very superficial analysis; the connector *en effet* must be studied more profoundly.

VII. Polyphonic elements: the verb mode "conditionnel passé" and the connector *même si*

38) L'Armée, l'Eglise, l'Ecole ont chacune connu leur crise,
39) il ***aurait été*** surprenant
40) que la famille n'en supporte pas certaines conséquences.
41) ***même si***, comme **institution**, elle résiste mieux que les autres.

e14 - La famille supporte certaines conséquences des crises connues dans les différentes institutions.
e15 - La famille résiste mieux que les autres institutions.

S accepts both e14 and e15. The restriction put on e15 (only acceptance and not adherence) is marked by the connector *même si*, and the acceptance of e14 by the mode "conditionnel passé" (*aurait été*). When using the mode of the "conditionnel", the S expresses that he can accept the point of view which is stated, but without taking any responsibility for it.

In fact, there are two polyphonic constructions in this passage. It would have been very interesting to try to put them in a hierarchy. In this context, however, I only want to point at the possibility of putting e14 higher up than e15 (cf.passage V, also with the connector *même si*), without justifying it any further.

4. Results and discussion

This analysis points out a lot of problems that need further study, and several questions that have to be answered must be put on ice. The following four points represent some of them:

1) The general problem of the determination and the interpretation of polyphonic elements. (For example: In what way is the verb *paraître* polyphonic, and how should it be represented in the linguistic analysis?)
2) The relation between the enunciators and the discourse individuals. In the present analysis I have only taken the speaker into consideration.
3) The coherence between the different enunciators (or the points of view or voices that they express).
4) The passages of a text where there is no apparent polyphonic element. In what way can these be incorporated in the analysis?

Despite the large number of unanswered questions, I want to underline that the preliminary analysis reported on here has produced interesting results. I have made a classification of the enunciators observed, according to the various relations that were posed between speaker and enunciators:

Figure 1. *The relations between the speaker and the various enunciators (or points of view):*

	Adherence	Acceptance	Dissociation
I	e2		e1
II		e4	e3
III		e6	e5
IV	e9	e7	e8
V	e10	e11	
VI	e12		e13
VII		e14,e15	

Let us now compare this classification with the model summary (see *Corrigé* in the Appendix). According to the hypothesis posed above, we should find in the summary the points of view expressed by the enunciators to whom the speaker of the text adheres. These points of view are e2, e9, e10 and e12. All of these are in fact represented in the summary (in sequences 1, 4 and 5 respectively).

Other voices that are present in the summary are e6, e14 and e15. These are voices that the speaker accepts, even if he does not adhere openly by taking responsibility for them.

Finally, the voices from which the speaker dissociates himself (e1, e3, e5, e8 and e13) are not expressed in the summary.

So, the conclusion must be that although this rough analysis obviously needs refinement, especially in formal representation, it has shown its legitimacy in the study of structuring and hierarchical organization of information. Finally I also want to suggest that further polyphonic analyses of texts might reveal relations between polyphonic structure and text types (see Nølke, 1989: 61).

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Appendix

Bruno Frappat: *La famille en danger* (*Le Monde*)

1) La famille en danger, la famille en question, il faut restaurer le rôle de la famille,
2) il faut faire élater la cellule familiale...
3) Telles sont quelques unes des réflexions
4) souvent entendues aujourd'hui sur un sujet universel, aussi ancien que l'homme et que la femme.
>>>
5) La contestation (6) ne date pas d'aujourd'hui.
6) dont la famille est l'objet
7) La nouveauté paraît surtout résider dans le fait
8) qu'on en parle plus librement que jadis
9) et que l'irruption de la vie sociale dans la vie familiale - notamment par le canal des mass média - a rendu les conflits plus aigus.
>>>
10) Sans cesse annoncée pour demain,
11) la fin de la famille paraît encore, aujourd'hui, fort **hypothétique**.
12) Les mentalités évoluent, certes,
13) mais moins vite qu'on ne le dit parfois.
14) Il apparaît d'autre part un décalage entre les mentalité sou les opinions - (15) - et la réalité des conduites individuelles.
15) affichées par exemple á l'occasion d'un sondage
16) La pression sociale, d'une part, les nécessités affectives, d'autres part, expliquent en grande partie
17) que la famille reste la cellule de base de la société,
18) même si certaines de ses fonctions ont changé.
>>>
19) Que la famille ait changé,
20) en effet, nul ne le conteste.
21) La famille élargie de jadis, (22), s'est restreinte.
22) oú les fonctions de subsistance économique étaient essentielles dans un monde rural
23) C'est ce rétrécissement qui est aujourd'hui le pluscontesté.
24) Destinée á être davantage un milieu de vie
25) oú s'établissent de multiples relations interpersonnelles,
26) la famille doit éviter
27) d'être seulement un lieu de consommation.
28) Tout, pourtant, la pousse
29) á être la cellule de base d'une société de consommation.
30) Et c'est précisement ce que refusent ces jeunes - encore minoritaires et peu nombreux -
31) qui ont crée, ici ou lá, des communautés.
>>>
32) Les discussions sur l'utilité, ou la nocivité, de la famille atteignent des fois un grand degré de passion.
33) C'est qu'elles se situent sur un fond de décor
34) où interviennent la sexualité, l'affectivité, l'éducationdes enfants et toute la morale.
>>>
35) **Magnifiée** par les religions,
36) soutenue - en principe - par les pouvoirs publics,
37) la famille recoit comme autant d'éclaboussures lescontestations des différentes institutions.
38) L'Armée, l'Eglise, l'Ecole ont chacune connu leur crise,
39) il aurait été surprenant
40) que la famille n'en supporte pas certaines conséquences.

41) Même si, comme **institution**, elle résiste mieux que les autres.

Corrigé (model summary):
1) La famille fut toujours l'objet d'éternels débats **(e2)**
2) dans lesquels la contestation actuelle prend naturellement sa place,
3) sans qu'il ne soit véritablement porté atteinte á l'institution familiale. **(e6)**
>>>
4) En effet, pour des raisons de conformisme et d'affectivité la famille reste la pierre angulaire de notre société; **(e9, e10)**
5) cependant, son rôle économique s'est indéniablement transformé en une fonction de conviviabilité **(e12)**
6) qu'elle n'assure pas toujours,
7) d'oú sa remise en cause par certains Jeunes.
>>>
8) Ainsi, bien que placée au centre de controverses passionnées,
9) la famille demeure une institution stable. **(e14, e15)**

Articulation of relational propositions: A tool for identifying an aspect of text comprehension

SONJA TIRKKONEN-CONDIT

Abstract

This paper suggests a method for clarifying an aspect of text comprehension. First, the rhetorical relations of the text are identified; second, the relational propositions are articulated into explicit statements which are inserted into the text and third, the identifiability and acceptability of the propositions is evaluated. Finally, an attempt is made to explain the readers' relational inferences in terms of expectations evoked by text type.

1. **Introduction**

Published texts are usually felt to be coherent in the sense of being interpretable, which is the way coherence is understood, e.g. by Enkvist (1981). According to this conception of coherence, a text is coherent if its readers can attribute meaningful interpretations to it, i.e. if they can think of contexts in which the text makes sense. My concern in this paper is not this kind of global coherence but, instead, coherence at a more local level: I will be concerned with the interpretability of the rhetorical relations of texts. I will assume here that the readers' interpretations also extend to rhetorical relations in the sense in which these have been defined by Grimes (1975), Mann, Thompson and Matthiessen in several articles, and others, including the present writer (see Tirkkonen-Condit, 1985). The discussion in this paper will be based on Mann and Thompson's (1988) account of rhetorical relations.

In rhetorical structure theory, texts are seen as hierarchical constellations in which parts of texts are functionally related in ways which can be relatively accurately described. These relations are called rhetorical relations, and they give rise to so-called relational propositions in the process of interpreting the text.

As was pointed out above, the readers' interpretations of a text are assumed also to include an account of its relational propositions, i.e. of "the unstated but inferred propositions that arise from the text structure in the process of interpreting texts" (Mann and Thompson, 1988: 244). In some sense the propositions are in the text, but they are seldom articulated into statements. If the text is felt to be coherent, however, the relational propositions are in principle articulable. The parts of text that can have articulable mutual relations can be of any size, and the relations need not be between adjacent parts of the text.

The rhetorical relations are either nucleus-satellite relations or nucleus-nucleus relations. In a nucleus-satellite relation, the part of the text which constitutes the nucleus is more central to the writer's goal than the satellite part. The satellite has an ancillary role, which can be seen, for instance, in that the satellite can be deleted without making the text incomprehensible.

2. **The purpose of the paper**

The first purpose of this paper is to show that relational propositions can in principle be articulated into "statements". For this purpose, the dominant rhetorical relations in an editorial will be articulated and inserted into the text.

The second purpose is to show that the articulation exercise helps to distinguish two elements of comprehension: identifiability and acceptability. Relational propositions are either identifiable or unidentifiable. The identified relational propositions, when they are articulated into statements, can be accepted or rejected by readers. We may see, for instance, that the writer has probably intended a particular item in the text as evidence for the validity of a claim but we may disagree about the adequacy or even the relevance of the evidence (see Johnson, 1987). This type of inadequacy relates to a discrepancy in the writer's and reader's beliefs or values rather than to interpretability. A possible name for this aspect of text comprehension is acceptability. Thus I will be concerned with identifiability on the one hand and acceptability on the other.

The third purpose of the paper is to try to answer the question of how readers can identify rhetorical relations, though these are virtually unsignalled. In answer to this question I will consider the hypothesis that it may be the readers' fairly specific expectations of text type that help them to infer the dominant relations.

3. **Description of rhetorical relations and articulation of relational propositions**

3.1. *Rhetorical relations in the sample text*

The sample text whose relational propositions will be articulated and evaluated is an editorial published in the *New York Times* on Friday, December 30, 1988. The text in its entirety reads as follows. (Sentence numbers have been added for ease of reference.)

Ageless, and Dressed Like an Athlete

(1) One day this week an elderly New Yorker was seen running for a bus. (2) Running *like a deer*! (3) How come this woman was so fleet of foot? (4) Because said feet were encased in Nikes, or Adidases, or Reeboks. (5) Or something just like

them. (6) Along with millions of other Americans old enough to remember Jesse Owens, she has discovered that wisdom lies in dressing like an athlete.

(7) There is an 84-year-old New Englander, for instance, whose collection of sweats rivals that of the heavyweight champion Mike Tyson. (8) She has them in pink and blue and red and gray, and she has them for all occasions.

(9) On three-dog nights, when once she might have huddled in bed dressed in a flannel nightgown, banked by the requisite trio of spaniels, she is serene in sweatshirt and pants. (10) And the ice-cube feet that used to make it through the night attired in hand-knitted booties are now toasted by sweat socks - the kind with two stripes at the top.

(11) There is nothing new, of course, in dressing practically. (12) But to dress as if you were in training is to do so without sacrificing chic and secrecy. (13) Nursie shoes, wedgies and the little numbers with the tractor-tread sole are classic solaces for the footsore. (14) But they proclaim the bunion, the callus and the cruel corn.

(15) Put on running shoes, however, and who's to know if you're going to walk to work or simply have bum feet? (16) As for sweatsuits, they do what shawls, snuggies and long johns never could: provide warmth at the same time that they project action, energy and the possibility of a five-mile jog.

(17) From toddlers to totterers, millions of Americans now know happier feet and cozier days and nights because they're dressing like competitors for the Golden Gloves. (18) May this fashion never go out of style.

It is not necessary for my purposes to describe the whole text as a network of rhetorical relations, and therefore only a few dominant relations will be pointed out. It will be assumed, throughout this analysis, that different readers may come up with slightly different interpretations and that comprehension is never independent of readers. The analyses offered will represent plausible interpretations and, as such, they will serve the purposes of illustration.

The point of the sample editorial is to argue for the "athlete" style of dressing, which is claimed to be practical and elegant for all ages[2]. This claim or thesis is first expressed as a general statement in sentences (11-12) as follows: *There is nothing new, of course, in dressing practically. But to dress as if you were in training is to do so without sacrificing chic and secrecy.* The opinion also transpires from the final paragraph, and from the initial paragraphs which describe individuals who dress in the athletic style, and ultimately, from the heading.

The first three paragraphs, i.e. sentences (1-10), constitute BACKGROUND to the writer's thesis, which is expressed in (11-12). Mann and Thompson (1988: 273) define BACKGROUND as a satellite which increases the reader's ability to comprehend an element in the nucleus: in this instance the BACKGROUND comprises two accounts of old ladies whose feet are comfortable in Nikes or Adidases and whose bodies keep warm but look elegant day and night in sporty indoor and outdoor wear. The BACKGROUND in the beginning of the text puts the writer's thesis in a proper framework, and enables the reader to comprehend it sufficiently.

A closer analysis of (11-12) shows that sentence (11) functions as a CONCESSION satellite to (12). According to Mann and Thompson's (1988: 254-255) definition of

CONCESSION, the writer has a positive regard for the situation presented in the nucleus; while the writer acknowledges a potential or apparent incompatibility between the situations presented in nucleus and satellite, s/he regards the situations as compatible and recognizes that the compatibility between the nucleus and the satellite increases the reader's positive regard for the nucleus.

In this instance the writer seems to anticipate that the readers will be wondering, after having read sentences (1-10), "What is new in dressing practically?" By admitting, by means of the CONCESSION, that there is nothing new, the writer aims at increasing the reader's positive regard for the thesis (the nucleus), namely that the athlete style of dressing does *not only* provide practicality but *also* "chic and secrecy." It is to be noted that the interpretation of the relation as a CONCESSION is supported by the modal adverbial *of course*. The other relations pointed out in the present analysis are not signalled in a comparable way.

The text that follows, i.e. (13-18), constitutes a satellite, namely EVIDENCE for the nuclear thesis of (11-12). According to Mann and Thompson's (1988: 251) definition, EVIDENCE increases the reader's belief in the nucleus; there is the constraint that the reader must believe what is presented in EVIDENCE or at least find it credible. In this instance the EVIDENCE consists of details of what is meant by "chic and secrecy" and how exactly these are attained by "dressing as if you were in training."

Sentence (17) constitutes a SUMMARY of (13-16); in Mann and Thompson's (1988: 277) definition, SUMMARY is a satellite which presents a restatement of the content of the nucleus and is shorter in bulk than the nucleus. This definition seems to fit: the main idea of (13-16) might well be restated in the words of this sentence, in which "happier feet and cozier days and nights", for instance, stands for the various comforts advocated in (13-16).

The last relation to be pointed out is a JUSTIFY relation, with (18) as a nucleus and (17) as a satellite. The effect of JUSTIFY, in Mann and Thompson's (1988: 253) words, is that "the reader's comprehension of the satellite increases his readiness to accept the writer's right to present the nucleus." In the last sentence, i.e. the nucleus, the writer expresses a wish that the athlete fashion of dressing might never go out of style; in an editorial the wish would sound hollow if it were not argued for. The preceding summary in (17) can be seen as this argumentation.

The text could of course be submitted to a more detailed rhetorical stucture analysis, but for the purposes of this article the five rhetorical relations pointed out above will be sufficient. They are presented schematically in Figure 1 below, in which the numbers refer to sentence numbers in the text. The nucleus-satellite relations are marked with arrows such that the arrowhead points to the nucleus.

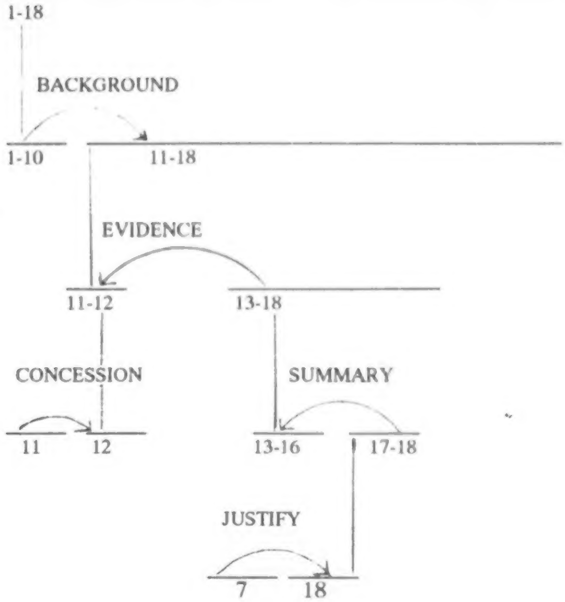

Figure 1. *Dominant rhetorical relations in the sample text*

3.2. *Articulation of relational propositions in the sample text*

In what follows, an attempt will be made to verbalise, i.e. to articulate into statements, the relational propositions which emerge in the process of interpreting the text. The 'statements' which stand for the relational propositions will be shown in bold type[3].

The first rhetorical relation, i.e. BACKGROUND, could be articulated into the following statement[4]: **What I will say at the beginning of the text will increase your comprehension of what I will say somewhat later.** This statement is to be placed right at the beginning of the text. The statement is inaccurate as it does not specify the scope of the subsequent satellite. Moreover, if we assume that the articulation of relational propositions represents the reader's interpretation process and tries to capture the events of the first reading, this formulation is too ambitious. When the reader has not even started reading, s/he cannot make accurate inferences about the relational propositions that might emerge; therefore the articulation which I have suggested must be treated as a potential inference that the reader may or may not make *while* reading the BACKGROUND passage.

The above treatment may ultimately have some psychological validity, since readers of editorials can be assumed to have rather specific expectations about text type. The mere knowledge that the text is an editorial evokes an argumentative scheme in the reader's long-term memory (see James, 1989), which guides his expectations and thus the top-down processing of the text. In the instance of the present text, these expectations will predict, for instance, that the entire text simply cannot be a narrative, as its very first paragraphs might suggest. The reader may therefore be able to infer, at a relatively early stage of reading, that the initial paragraphs are meant as background. I will discuss the origins of inferences about relational propositions in more detail in Section 5.

The CONCESSION relation between (11) and (12) in turn can be articulated as **The above will increase your positive regard for what I will say next.** This formulation presupposes that CONCESSION is articulated after the item itself.

The EVIDENCE relation between (11-12) and (13-16) can be articulated as **Your belief of what I just said will increase when you read the following.** The SUMMARY relation between (13-16) and (17) can be articulated as **You will recognize what follows as a shorter restatement of what I said above.** And finally, the JUSTIFY relation between (17) and (18) can be articulated as **On account of what I said above your readiness to accept what I will say next will have increased.** Alternative placements are possible, but a change in placement calls for a revision in the formulation. Each alternative placement will represent a slightly different interpretation process. Without an empirical study of these processes, however, there is not much point in speculating on the psychological plausibility of each placement.

It might be interesting to see, however, what the whole text looks like, when the articulated statements representing the relational propositions have been inserted. To illustrate this, the articulations of the five relational propositions discussed above have been inserted in the version of the text which follows. The inserted articulations are in brackets and printed in bold type, and the choice of their placement is mine.

Ageless, and Dressed Like an Athlete

(What I will say at the beginning of the text will increase your comprehension of what I will say somewhat later.)

(1) One day this week an elderly New Yorker was seen running for a bus. (2) Running *like a deer*! (3) How come this woman was so fleet of foot? (4) Because said feet were encased in Nikes, or Adidases, or Reeboks. (5) Or something like them. (6) Along with millions of other Americans old enough to remember Jesse Owens, she has discovered that wisdom lies in dressing like an athlete.

(7) There is an 84-year-old New Englander, for instance, whose collection of sweats rivals that of the heavyweight champion Mike Tyson. (8) She has them in pink and blue and red and gray, and she has them for all occasions.

(9) On three-dog nights, when once she might have huddled in bed dressed in a flannel nightgown, banked by the requisite trio of spaniels, she is serene in sweatshirt and pants. (10) And the ice-cube feet that used to make it through the night attired in hand-knitted booties are now toasted by sweat socks - the kind with two stripes at the top.

(11) There is nothing new, of course, in dressing practically. **(The above will increase your positive regard for what I will say next.)** (12) But to dress as if you were in training is to do so without sacrificing chic and secrecy. **(Your belief of what I just said will increase when you read the following.)** (13) Nursie shoes, wedgies and the little numbers with the tractor-tread sole are classic solaces for the footsore. (14) But they proclaim the bunion, the callus and the cruel corn.

(15) Put on your running shoes, however, and who's to know if you're going to walk to work or simply have bum feet? (16) As for sweatsuits, they do what shawls, snuggies and long johns never could: provide warmth at the same time that they project action, energy and the possibility of a five-mile jog.

(You will recognize what follows as a shorter restatement of what I said above.) (17) From toddlers to totterers, millions of Americans now know happier feet and cozier days and nights because they're dressing like competitors for the Golden Gloves. **(On account of what I said above your readiness to accept what I will say next will have increased.)** (18) May this fashion never go out of style.

In what follows I will first consider what possibilities there are, in principle, to use the articulation of relational propositions as a tool for explicating text comprehension. I will then illustrate the principle by evaluating the identifiability and acceptability of the relational propositions which were articulated in Section 3.2.

4. Judgement of identifiability and acceptability

The dimension of comprehension discussed in the present paper appears as a continuum between unidentifiability and acceptability. In principle, at least the following types of comprehension can be distinguished:

1. *Unidentifiability*. The reader cannot identify the relational proposition, which means that the text at that point does not make sense. The reader perceives that part of the text as incoherent.

2. *Temporary unidentifiability*. The reader identifies the relational proposition (probably) intended by the writer only after reading more of the text or perhaps the whole text. One reason for the delay may be a misleading or inadequate signalling of the relation. The reader's perception of incoherence is temporary.

3. *Identifiability without acceptability*. The reader infers the relational proposition but judges it as unacceptable. This judgement may be due to a variety of reasons, such as disagreement on what counts as facts or as cogent argumentation. Detection of fallacies in argumentation, for instance, will go under this heading.

4. ***Identifiability combined with acceptability.*** The reader identifies the relational proposition immediately, i.e. with no conscious perception of incoherence, and finds it acceptable.

This tentative categorization of types of comprehension will now be applied to some of the relational statements articulated in 3.2.

The BACKGROUND relation probably falls in the category of temporary unidentifiability, since it cannot be expected that a reader will identify the intended relation until after reading a considerable stretch of the text. When the reader starts reading the editorial, however, his prior knowledge of editorials tells him that the whole text cannot be a story or a collection of stories of old people dressing comfortably in an athletic style. Largely by virtue of this knowledge, the reader will expect an expression of an argued opinion at some point of the text, and at the point where the opinion ultimately emerges, i.e. in (11-12) or perhaps at an earlier point, the reader probably identifies the relation as a BACKGROUND relation. The reader's acceptance of the articulated statement also seems likely, as the only claim made by the statement is that the reader's comprehension of subsequent text will be increased by reading what is offered as BACKGROUND.

The CONCESSION relation also seems easily identifiable. At the same time, the articulated statement is not necessarily automatically accepted, as it claims that admitting that there is nothing new in dressing practically will increase the reader's positive regard for the claim that the athlete style of dressing will also provide "chic and secrecy." The reader may be flattered, as intended, by the concession, but he may not be convinced. In this instance, the reader's perception is one of identifiability without acceptability.

The EVIDENCE relation is probably easy to identify, since the reader's expectations will probably predict that there will be such a relation at the point where the writer puts forward his thesis. It is not self-evident, however, that the reader will accept the evidence as valid. He may think that even if "dressing as if you were in training" may not proclaim the callus or the cruel corn, it still is not elegant for all occasions. He may think, for instance, that people should dress according to their chronological age rather than try to imitate teenagers in the choice of their clothing. Even if the reader maintains this opinion, he probably cannot fail to see that the writer has meant youthfulness and the opportunity to conceal one's chronological age as his main arguments. The EVIDENCE relation, for this reader, will be placed in the category of identifiability without acceptability.

It is also possible that some readers, while reading (11-12), find the text difficult to understand. When I myself first read the text, I was puzzled by the reference to "chic and secrecy." I had to read the evidence to understand what was meant, and my perception was one of temporary unidentifiability.

The sample text does not manifest any obvious instances of unidentifiability, which is to be expected from an editorial of the New York Times. With the examples discussed above, however, I hope to have shown the overall principle of using articulated statements of relational propositions as tools for explicating some aspects of text comprehension.

5. **Text-type-specific expectations as origins of inferences**

Mann and Thompson (1988: 260) say that inferences about rhetorical structure are inevitable. "They are not invited inferences, Gricean implicatures or mere opportunistic inferences from available knowledge. Relational propositions are as inevitable as text structure itself." Mann and Thompson, however, do not explain what it is that makes the readers' inferences "inevitable." I have suggested above that one major source of inference about rhetorical structure is the reader's prior knowledge of text type, i.e. schematic knowledge which makes him expect a particular rhetorical structure.

In analogy with the constructivist hypothesis of literary vs. non-literary text comprehension which has been put forward by Meutsch (1989), I propose a text-type-specific constructivist hypothesis, according to which readers approach factual prose texts, such as newspaper articles, with specific expectations about their structure. Meutsch's proposal is that readers apply different "conventions" to reading literary versus non-literary texts. Aesthetic and polyvalence conventions are applied to literary reading, while truth and monovalence conventions are applied to non-literary reading. These different ways of reading imply different expectations, which guide the readers' text comprehension throughout the reading process. For example, they determine the readers' responses to gaps in coherence. Experienced readers of literature were observed to automatically apply the polyvalence convention, when reading what they judged to be literary texts, without letting ambiguity disrupt their reading.

My suggestion is that the constructivist hypothesis can be extended so that it applies not only to a distinction between literary versus non-literary reading but to various genres and text types of factual prose as well. According to my "text-type-specific constructivist" hypothesis, the reader of an editorial, for example, applies to the text a particular "editorial convention": the reader expects the text to take a stand, to express an argued opinion about a topical issue. It is this expectation which orientates the reader so that he can infer in an editorial those rhetorical relations which normally go together with argumentation. These are, for instance, EVIDENCE, JUSTIFY and CONCESSION. The reader infers these largely by virtue of the expectation that they should be there rather than on account of structural signals in the text itself. This hypothesis gets support from an experimental study to be reported elsewhere (Tirkkonen-Condit, forthcoming).

The sample text is of the argumentative type. The relations EVIDENCE, JUSTIFY and CONCESSION are typical of argumentation; they belong to the argumentative scheme expected by the reader of an editorial. These typical relations can all be shown to derive from the argumentative process itself, i.e. from the implicit dialogue which the writer conducts with the reader. The argumentative process in turn is triggered off by perceived or anticipated disagreement with the reader, as has been shown, e.g. by Jackson (1987) and Jacobs (1987).

Enkvist (1981) has suggested *experiential iconicity* as an explanation of the structural patterns or 'text strategies' of particular text categories such as tourist guides. A typical tourist guide proceeds in the order in which the visitor is expected to move from one place to another and to look at one detail and then another. Spatial sequencing is typical of descriptive texts in general, as is shown by Werlich (1976).

Argumentative texts, too, are iconically structured. The term *processual iconicity*, however, captures the essence of argumentation better than experiential iconicity. The writer begins argumentation at that point of the text where he or she anticipates disagreement from the reader's side. Contrastive sequences and the relations of ANTITHESIS, CONTRAST, EVALUATION, CONCESSION, EVIDENCE and JUSTIFY are the textual consequences of an argumentative phase in the writer's dialogue with the reader. The sequential organization of the text follows the anticipated dialogical process with the reader, i.e. the argumentative process which develops around disagreement.

Knowledge of the argumentative scheme is thus present both in the production and in the comprehension of an editorial text. It is a major source of inferences concerning the relational propositions in the text. Similar kinds of schematic knowledge are at work in the writing and comprehension processes of other types of texts.

The sample text discussed in this paper is an editorial. When composing an editorial, the writer can count on relatively clearcut expectations that readers have, however unconsciously, about the rhetorical structure of such texts. There is no need, therefore, to spell out the rhetorical propositions into "articulated statements", as has been done in the above analysis.

6. Conclusion

It was suggested in the above discussion that readers' ability to identify and accept relational propositions in a text may have a major role in their judgements of whether a text seems coherent. Types of text comprehension were defined (1) according to whether a relational proposition was immediately identifiable, identifiable after some further reading or not identifiable at all, and (2) according to whether the proposition was judged to be acceptable.

In order to describe their identifiability and acceptability, the relational propositions in the sample text were identified, articulated into statements and inserted into the text. This exercise showed that the sample text would probably manifest a relatively high degree of coherence to its readers in that its dominant rhetorical relations would probably be relatively unambiguously identifiable, with their acceptability depending on the readers' beliefs and values.

The dominant rhetorical relations in the sample text were virtually unsignalled, and were therefore left to the readers to infer. The discussion of the origins of the readers' inferences laid emphasis on text type, and suggested that it is largely by virtue of their schematic knowledge of editorials that readers have fairly specific expectations about dominant rhetorical relations. The readers expect, for instance, that an editorial will be argumentative rather than narrative by text type, and this expectation entails particular rhetorical relations.

Notes

1. I wish to thank Professors Nils Erik Enkvist and Dieter Viehweger for their comments on the earlier versions of this paper.

2. I have asked three academically educated Americans - two of them regular readers of the *New York Times* - to read the sample text carefully and to say what they thought was the main point of the text. There was a consensus about the main point as it is summarized above. I also asked the informants specifically whether the writer may have intended the text to be taken ironically, and they declined this possibility.

3. The formulations of the 'statements' of the relational propositions will be as close as possible to the original formulations suggested by Mann and Thompson (1988). Stylistic and other ad hoc adjustments have been deliberately avoided. Such stringency seems necessary, as the idea is also to test the delineation of the relation types.

4. It is not claimed here that the text will read as a fully natural or authentic text after the articulated relational propositions have been inserted. The insertion is necessary, however, as it enables judgement of the articulated propositions in each of the contexts where they appear.

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Temporal adverbials in text structuring: on temporal text strategy*

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Abstract

The paper discusses clause-initial adverbials of time functioning as signals of the temporal text strategy. A chain of such markers creates cohesion in the text and contributes to text segmentation. The temporal text strategy is closely connected with the narrative type of text. First unitype texts are discussed. Then temporal adverbials are viewed in the light of quantitative data from a corpus containing heterogeneous texts of different types.

1. Temporal text strategy: Scrutiny of an example.

A discussion of adverbials of time in the service of the *temporal text strategy* (Enkvist 1987) may best be started from the narrative type of text. The temporal text strategy - or temporal *continuity*, *unity*, or *orientation*, to use terms originating in different frameworks (Givón 1983, 1984; Grimes 1975; Longacre 1983) - may appear in a text in an explicit form, or it may be left implicit if the text follows *experiential iconicity* (Enkvist 1981) - if the *text time* coincides with the *story-time* (cf. e.g. Genette 1972; Rimmon-Kenan 1983). In a temporally steered text, deviations from temporal sequentiality and temporal adjacency must be marked.

A temporal text strategy may run through the entire text or part of a text. It may combine and co-occur with other global and local strategies manifested in the text. On the textual surface, the temporal text strategy may be manifested through a chain of temporal expressions, typically adverbials denoting 'point-of-time' placed at the beginning of their clause and sentence - or rather, at the beginning of the textual unit they introduce. Their function is twofold: They create cohesion and coherence by forming continuity in the text and, at the same time, they play an important role in text segmentation by signalling textual boundaries that occur on different hierarchic levels. Consider the following example, an extract of a story written for children.

> (1) --- *One evening* the woman found that there was a bit of milk left over after supper.
>
> "I may as well give it to those skinny, scraggly, scrawny cats," she decided. She poured it into a pan and put it in the garden. That was on Monday.
>
> *On Tuesday*, she ordered a whole extra quart of milk from the milkman. By mistake, of course.
>
> Do you know what she did with it?
>
> *On Wednesday*, she bought too much chopped meat at the butcher's shop - another mistake?

> *On Thursday*, she came upon an extra dozen eggs in her shopping bag. But they did not go to waste, for eggs are fine for cats.
> *On Friday*, the mackerel in the market looked so firm and fresh that the woman completely forgot that they were having supper with friends that evening. She bought some mackerel and brought it home.
> *Then*, of course, she couldn't throw it away - because she knew how cats feel about FISH.
> "Now mind you," the woman warned the cats, "just because I give you food, you mustn't think I like having you here in our garden. I just happened to have bought this extra food by mistake."
> The cats sat still and stared at her. Then they all CLOSED their big, round, yellow-green eyes.
> *On Sunday*, it rained. --- (Rowand 1966:154-5)

Example (1) comes from the middle of a text which shows clear and homogeneous tendencies of the phenomena under investigation here. Typically for a narrative, the text manifests an interplay of several text-strategic continuities: In addition to the global temporal strategy we find participant continuity and action continuity. Initial placement of temporal adverbials at crucial points of the text has an important function in the signalling of new stages in the text, boundaries between textual units or *textual shifts*.[1] When no textual shift takes place, such adverbials tend to appear clause-finally, e.g. (2).

> (2) He worked *all day*, hammering and sawing. He worked *almost all night*, too. (Rowand 1966:156)

Other types of adverbials normally appear non-initially in the narrative clauses in this kind of texts, cf. (1), above.

As adverbials of definite time in the example text have a crucial role in the signalling of the temporal text strategy, it is natural for the backgrounded descriptive or expository passages to be marked with the help of initially placed adverbials denoting 'duration' or 'frequency', e.g.

> (3) *All day* the cats played in the pretty garden. They chased the beetles and the butterflies, and --- (Rowand 1966:153)
>
> (4) *Every day* the cats played in the pretty garden. They would not go away. (Rowand 1966:154)

The example text also manifests the tendency - often found in narratives - of fewer markers appearing at lower-level shifts and clusters of markers occurring at the more macro-level boundaries (Givón 1984:245; cf. e.g. the adverbial marker *one evening* and the full-NP reference to one of the main participants *the woman* at the beginning of (1), a major boundary in the text; cf. also e.g. *on Tuesday* signalling the following minor shift, where the participant is referred to using a pronoun). Further, to reinforce major textual boundaries, one often finds, instead of immediate shifts, different kinds of *prolonged shifts* (cf. e.g. the temporal circle of *one evening - that was on Monday* in (1) framing the first episode after the major boundary). An *anticipated shift* may also appear in the immediately preceding context of a major boundary, e.g. *just then* at the end of a section in (5) below (cf. also Giora 1983).[2]

> (5) --- Goldilocks looked at the teeny, weeny bed near the window. It was just the right height, and had a beautiful patchwork quilt just the right thickness. As soon as Goldilocks climbed in she fell fast asleep.
> *Just then* the bears came home, very hungry after their walk.
>
> 'Somebody's been eating my porridge!' roared the great big bear in a great gruff voice. --- (Boase 1983)

When there is no need to mark, for instance, deviation from temporal sequentiality or temporal adjacency using a lexically heavier temporal expression (such as *in the meantime*, *the day before*, or *two weeks later*), an implicit 'then' tends to be made explicit if it is needed to signal a textual shift. In (1), above, we find an interesting example of the occurrence of an explicit *then*, denoting 'after that'. The sequentiality of the events is clear even without the explicit adverbial marker. The adverbial has a very important textual function here: It marks a shift between two episodes in the narrative and stresses their sequentiality, and at the same time, it participates in the signalling of a change of pace and the growing tension (Longacre 1983) at this point in the story.

The peak of a story often seems to differ in structure from the rest of the text (Longacre 1983). An explicit temporal continuity may become totally implicit in the peak-episodes, which are then, instead, signalled by other devices, such as the use of sentence-initial direct speech to heighten the vividness of the narration, or shifts in participant/action continuity, connectors of different types, and so forth. The return of the explicit temporal text strategy in the post-peak episodes may then be relatively conspicuous. (For an extensive discussion of the above issues and detailed analyses of entire texts, see Virtanen 1988.)

Lack of space forbids a comparison here between temporal shifts and boundaries between textual segments as established, for instance, according to the Labovian or the Rumelhartian model (Labov 1977; Rumelhart 1975). In general, however, signals of macrostrategies seem to roughly correlate with narratological patterns as presented in several different types of models in the literature (see Virtanen 1988).

2. Text types.

Text types differ as to the typical text-strategic continuities used to structure them, and temporal sequentiality is one of the basic criteria for the narrative type of text (cf. e.g. Labov 1977; Longacre 1983; Werlich 1976). The temporal text strategy is, in fact, so closely associated with the narrative type of text that if text-producers wish to avoid the effect of this text type when they have to deal with temporally organizable materials, they seem to break the potential temporal sequentiality of the text (cf. Reinhart 1984). Examples of this abound in news stories. At the same time, it seems easy to realize various discourse functions in the form of a narrative, temporally structured, type of text - an argument for narrative being a basic or primary type of text: Consider, for instance, the use of narratives to instruct, explain things, or persuade.

Starting from the temporal text strategy we may outline a text-typological scale:[3]

```
TEMPORALLY                      TEXTS ORGANIZED USING OTHER,
ORGANIZED TEXTS:                    NON-TEMPORAL STRATEGIES:
      <----------------------------------------------->
    nar/////           /////des/////           /////arg
          ///////ins//////////////
                         //////////////exp///////
```

Figure 1. *The relative positions of five types of text on a scale of temporal vs. other text strategies (nar = narration; des = description; arg = argumentation; ins = instruction; exp = exposition).*

While narratives are always, implicitly or explicitly, temporally organized, argumentation, in the sense of certain culture-specific patterns of presenting rather openly evaluative discourse, may be structured with the help of various logical connectors, some of which indicate a temporally iconic, logical succession in discourse. A fundamental aspect of instructive, or procedural (Longacre 1983), texts is their strict conformity to experiential iconicity, which makes explicit markers of time, in their primary function, unnecessary. These texts vary, however, from more narrative-like texts that make use of temporal signals as explicit markers of shifts, to more description-like, or even exposition-like texts containing enumerative conjuncts instead (for the term, see Quirk et al. 1985:634). Expository texts, on the other hand, range from "expository narratives" to blends of exposition and argumentation. In between, we may find the most "neutral" category on the scale: description. Since description often follows what may be called *generic* time, it may, if embedded into another type of text, relatively easily be adjusted to match the time orientation of its frame text if necessary. Descriptions vary from "suggestive", typically found in multitype narratives, to more expository ones.

3. Quantitative data.

I have shown examples of fairly stereotyped texts, structured along temporal lines, which have been chosen for the purpose of illustration. They were selected as representative samples of their categories from materials collected with a view to an in-depth analysis of the interplay of various textual and discoursal motivations behind the placement of temporal and locative adverbials in their clause (Virtanen 1988). Obviously, as these data were expected to show maximal tendencies, they do not lend themselves to statistical treatment. Let us, therefore, consider the occurrence of temporal adverbials in the service of the temporal text strategy in a corpus that contains heterogeneous texts of different types.

For this purpose, a study of a few, randomly sampled adverbials of the type frequently found in the unitype texts of my own data, referred to above, was carried out at the *Survey of English Usage*, University College London (henceforth: SEU). I used the written corpus, which in January 1990 contained 84 "texts" of approximately 5,000 running words each, totalling some 420,000 words.

The search procedure of the written corpus at the SEU gave 1,790 adverbial tokens denoting 'point-of-time' for the 33 selected lexical items (e.g. *Monday* gave adverbials such as *on Monday, by Monday, since last Monday*). Of these, one third (600 or 34%) appeared in a clause-initial or sentence-initial position. The majority of them (357 or 60%) appeared at the beginning of a text, mostly in journals, letters, and newspapers, thus forming a temporal setting (often combined with a spatial one) for what follows. In journals, such items usually constitute the temporal chain that, on a macro-level, structures the text. Cf. e.g.

> (6) PORT STANLEY, Falkland Isles, *Monday*.
> (W.12.4:277)4
>
> (7) *Friday 22nd Feb*.
> Dear J,
> Just a note to say --- (W.7.5:168-9)
>
> (8) *16th Good Friday*
> Went to Mattins, Litany service but D + M went to part of the 3-hour. In the afternoon I tidied --- *17th* (W.8.2:367-9)

The following discussion concerns the remaining 243 initially placed temporal tokens, which form 14% of the 1,790 adverbial tokens and 40% of the initially placed temporal tokens. Initial position here refers to placement before the subject.

The typical initial position proved to be at the beginning of a sentence - 136 or 56% of the instances (N=243) appeared in this position (cf. (9), below), and another 63 or 26% sentence- and paragraph-initially, e.g. (10).[5] These cover 82% of the instances - a figure to be contrasted with the 44 clause-initial tokens (18% of the initially placed temporal tokens), e.g. (11).

> (9) Mr. Name has been teaching at this Secondary Modern School of 222 pupils in a temporary capacity for almost 22 months. *Until July* he coached examination groups for us for two days a week. *Since September* he has taken over the timetable of the Head of English who has been recovering from a serious operation. Mr. Name has settled well ---
> (W.17.2:108-11)
>
> (10) --- He had a sensation of danger now.
> *By the end of September* he had heard a good deal more about his brother. He had heard that --- (W.16.7:95-7)
>
> (11) I first saw her on the 22nd March when she gave a history of four months pain in both calves. Initially more or less complete rest had tended to resolve the problem but *in January* it became quite agonising and in fact she was seen in Casualty as her general practitioner thought she might have ---
> (W.7.13:419-20)

The typical text category containing initially placed temporal adverbials was that of letters (Text Cat. 7 and 17) - in particular of the social and intimate kind (7.1-5, 7.31-32). Such letters often concern various incidents that have taken place in the life of the text-producer, and not infrequently, they are realized in the form of a narrative. Some letters - written, for instance, while one is travelling - may have a global temporal strategy, into the frame of which descriptions, evaluations, and other more locally appearing text types are inserted. Letters of application (7.7-8) were a category of business letters (7.6-17, 17.1-2) that often contained an embedded temporal strategy in the part giving the applicant's background, previous employments, etc.

Expectedly, extracts of non-printed journals (Text Cat. 8) also included a high number of sample items. A third major group of texts in which initial temporals tended to appear was that of prose fiction (Text Cat. 16) - not an unexpected finding, either. Cf. Table 1.[6]

Table 1. *Text category distribution of 243 initially-placed temporal sample adverbial tokens in the written corpus of the SEU. (For the coding, please see Table 2 on the next page.)*

Text category	N	%	No instances
6.4-5	6	2 %	6.1-3; 6.6
7.1-5	31		
7.31-32	17 } 48	} 20 %	
7.6-9	20		7.10-12
7.13	1		7.14
7.15	3		7.16-17
17.1-2	4 } 28 } 76	} 12 % } 32 %	
8.1-3	46	19 %	
9.5-7;9.9;9.11	8	3 %	9.1-4 9.8; 9.10
10.1	1	-	10.2-6
11.1-8	13	5 %	
12.1-3	18		12.4
12.7	1 } 19	} 8 %	
12.5-6	6		
12.8	1 } 26	} 11 %	
13.1-5	13	5 %	14.1-3
15.1-5	13	5 %	
16.1-8	41	17 %	
59 texts (= 70 % of texts)	243 adverbials	99 %	25 texts (= 30 % of t.)

As the text categories contained in the written corpus are of different sizes, it is of interest to compare these proportions with the findings reported above (cf. Table 2). Letters of various kinds form 25% of the written corpus, while only 4% of the corpus consists of texts from journals. Prose fiction, again, covers some 9% - a fairly average kind of amount. One third of the letter category is of the social, intimate kind. Above the average of 2.9 initial temporals per 5,000 words, i.e. a "text", were thus journals (15.3 items per 5,000 words), followed by social letters (6.9), prose fiction (5.1), and press (3.3).

Table 2. *List of Written Texts included in the SEU.*

Text Number:		Category:	Proportion of the corpus:	
NON-PRINTED MATERIAL				
W.	6.1-6	Continuous writing		7%
W.	7.1-5	Letters - social, intimate	8%	25%
	31-32	Letters - social, intimate		
	6-15	Letters - business	17%	
	16	Letters - printed/mimeoed		
	17	Letters - pre-publication		
W.	17.1-2	Letters - business		
W.	8.1-3	Journals		4%
PRINTED MATERIAL				
W.	9.1-4	Learned arts		13%
	5-11	Learned sciences		
W.	10.1-6	Instructional writing		7%
W.	11.1-8	General non-fiction		9%
W.	12.1-4	Press - general news		9%
	5-6	Press - specific news		
	7	Local press - general news		
	8	Press - editorials		
W.	13.1-5	Administrative and official language		6%
W.	14.1-3	Legal and statutory language		4%
W.	15.1-5	Persuasive writing		6%
W.	16.1-8	Prose fiction		9%
		TOTAL		99%

Note. Figures have been rounded off.

The main motivation behind the initial placement of the adverbials under investigation seemed to be text-strategic. Thus, 68% (166) of the 243 initially placed tokens functioned in the service of the temporal text strategy, of which we have seen examples above. These text-strategic chains of temporal expressions were mostly of the local, embedded kind. 17% (42) formed an occasional anaphoric link to the immediately preceding textual context but did not belong to a chain of text-strategic elements, e.g.

> (12) --- What the Advent message does is to surround each one of these moments with all the seriousness of the Last Day, to remind us that *at the end of the day* the Son of Man will acknowledge or disown us by our answer to Jesus --- (W.15.2:67)

Some such local links may, of course, be interpreted as signals of micro-level text strategies if there is a temporal juncture, cf. Labov's (1977) definition of a minimal narrative. The remaining 14% (35) appeared initially for other reasons, of which the main one was that of signalling a topic shift, typically in social letters, e.g.

> (13) --- The Girls aren't speaking to Nicky now. *This morning* I woke at -7- 6 & it was sunny but now there is rain. Oh yes I went to quite a good party on Friday - it was the last (but one) night of --- (W.7.31:267-9)

Such instances imply the existence of an otherwise implicit temporal frame or strategy: Basically, the difference between topic shifts signalled through a temporal element and markers of a temporal text strategy is only the scope of the strategy - usually there is only one instance of an explicit temporal signal in a text that may otherwise be realized using other strategies. Depending on text-typological clues, the reader, of course, may or may not expect a chain of text-strategic markers when the first adverbial appears in a temporally organizable text. Temporal signals of topic shifts differ from the local links referred to above in that the marker is not anaphoric. Clearly, all of these are related to each other.

Temporal signals of topic shifts tended to occur at the beginning of a paragraph, while markers of a temporal text strategy typically appeared at the beginning of a sentence that occurred non-initially in a paragraph. Paragraph-initial position was, however, often favoured in the instance of markers of a global strategy. Especially in the social letters, paragraph division was sometimes non-existent (cf. e.g. (13) above). Markers of local links behaved differently from the other shift markers: Nearly half of them were found at the beginning of a clause, referring back to the preceding clause within the same sentence.

An investigation of the distribution of the textual motivations discussed above in the different text categories shows that chains of temporal expressions indicating a temporal text strategy were mainly found in journals (24% of the 166 tokens), prose fiction (20%), and letters (33% - 19% in social and 14% in business letters). As the text categories are of different sizes, the number of strategy markers per "text", i.e. 5,000 words, is again of interest. Journals thus contained 13.3 initially placed adverbial signals of a temporal text strategy per "text", social letters 4.4, and prose fiction 4.3 - all well above the average of 2. Extracts of journals, social and business letters (in particular, letters of application and referees' letters), news texts and a number of other text categories contained local temporal strategies, while the global type tended to be found in prose fiction, a few social letters and some journal texts. As pointed out above, social letters were the typical source of the topic-shift sort of temporal signal. Local links of the temporal kind were found in a number of different text categories - they showed no specific pattern.

Fig. 2 below includes only the individual "texts" containing the highest number of markers of a temporal text strategy in each text category. The rest of the journal texts are situated on both sides of the middle of the scale, other letters and prose fiction texts, again, in the lower half.

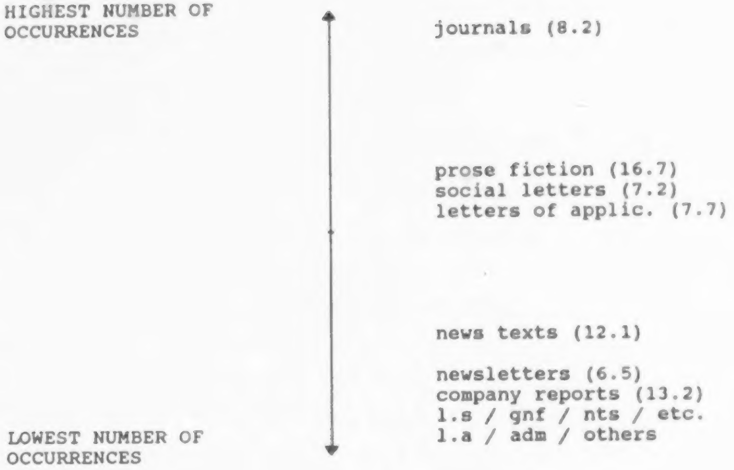
HIGHEST NUMBER OF OCCURRENCES
journals (8.2)
prose fiction (16.7)
social letters (7.2)
letters of applic. (7.7)
news texts (12.1)
newsletters (6.5)
company reports (13.2)
l.s / gnf / nts / etc.
l.a / adm / others
LOWEST NUMBER OF OCCURRENCES

Figure 2. *Initially-placed temporal sample adverbial tokens signalling a global or local temporal text strategy (N=166): Individual "texts" containing the highest number of occurrences in their category.* (l.s = learned sciences, gnf = general non-fiction, nts = notices, l.a = learned arts, adm = administrative language). Text number in parentheses.

To conclude the report on the corpus study, a few remarks on the behaviour of *then* denoting 'after that' will be in order. This item was checked separately, as it was expected to behave somewhat differently from the others. Of the 209 instances of initially placed *then*'s, 135 or 65% occurred clause-initially and referred back to the preceding clause within the same sentence (cf. the corresponding figure for the other initially placed temporals (N=243): 18%).7 Thus, *then* 'after that' tends to have the function of an occasional local link within a sentence, or that of signalling a micro-level temporal strategy. In distribution, it seemed to be fairly similar to the adverbials discussed above. In addition to the text categories of social letters, journals and prose fiction, it was, however, also frequently found in instructions (often in local chains of the type 'first do this and then do that').

4. Conclusion

As I have presented quantified data on textual phenomena, let me conclude the paper by repeating the obvious: Mere frequencies - of different types of adverbials in different positions in different types of texts - are not enough to give us the whole picture of the phenomenon. We need to take into account the entire text, the type of the text (within multitype texts, the frame or main type vs. the embedded subtypes; cf. Virtanen 1987; Virtanen and Wårvik 1987), the total strategy of the text and its discourse functions. The textual functions that a chain of clause-initial adverbials of time may have in creating cohesion and coherence and in segmenting the text obviously have the discourse-pragmatic effect of facilitating text processing. Near-prototype narratives discussed at the beginning of the paper show clear and homogeneous tendencies. A less stereotype narrative provides the text-receiver with less expected, and hence, informationally more weighty, solutions (cf. e.g. Björklund and Virtanen, forthcoming). The structuring of such a "deviant" text may, however, be assumed to take place against the background of a (socio-cultural) prototype narrative, which makes the investigation of simple unitype texts worth while. To round off, I may, therefore, agree with Butt and O'Toole - two literary scholars working within the systemic framework - who state that "we should clearly start --- by looking at the unmarked form of the structure potential of a particular genre" (Butt and O'Toole 1985:97).

NOTES

*I have greatly benefited from discussions with Nils Erik Enkvist, Martina Björklund and Brita Wårvik. I am also grateful to NORDTEXT participants for comments on my paper at the symposium. Finally, thanks are due to the H.W. Donner Trust of the Åbo Akademi Foundation for financing the corpus study at the SEU, University College London.

1. A terminological note. The chain of references to a common temporal frame used to structure a text forms continuity in the text. It is thus the text that is continuous, not necessarily the referential frame. Intra-continuity steps, i.e. new stages in the text-strategic continuity - in this case, new points on the temporal line that the linguistic signals refer to - may therefore be called *shifts* in text-strategic continuity. They reflect the other side of the coin - that of the temporal markers acting as a clue to text segmentation. Shifts - and breaks, in the sense of switching strategies - in text-strategic continuities are textual phenomena.
2. The terms *episode* and *section* are here used as in Virtanen 1988, where these example texts are fully analysed.
3. In outlining the scale, I have used Werlich's (1976) five types of text. The scale reflects the role of the temporal text strategy - explicit or implicit - in text typology. It does not, as such, account for other textual phenomena.
4. The notation *W.12.4:277* stands for 'Sentence 277 in Text 4 in Text Category 12 in the Written Corpus of the SEU'.
5. Typographical text segmentation (e.g. paragraph division) need not coincide with thematic text segmentation (i.e.boundaries between textual units of various kinds).
6. The individual "texts" containing the highest numbers of the items under investigation were: 1) 8.2 (21 tokens); 2) 7.2/8.3/16.7 (16 tokens each); 3) 7.31 (13 tokens); 4) 7.7 (12 tokens); and 5) 8.1 (9 tokens).
7. 66 (31%) of the 209 instances appeared sentence-initially within a paragraph and 8 (4%) paragraph-initially.

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Diversifying procedural discourse

KAY WIKBERG

Abstract

Although the main characteristics of procedural discourse are well known, we know less about its various subtypes. Most of the data for the present paper are taken from Category E ('Skills, trades and hobbies') in the Brown and LOB corpora, supplemented with examples from computer manuals and a manual for drivers. After a survey of previous research the essential character of procedural discourse is represented by the formula X PRESCRIBE HOW Y DO Z, where X is the knowledgeable text producer, Y the ignorant addressee, and DO Z a complex act. It is shown that variation in text type is largely due to the nature of this macro-act and the degree of directness/indirectness that the text producer adopts towards the reader.

1. Introduction

'Procedural' discourse makes up a common category which we are all confronted with from time to time. It is often mentioned as one of the major discourse categories side by side with the 'descriptive', 'narrative', 'expository', and 'argumentative'. However, for various reasons procedural or 'instructive' discourse has attracted less attention than the others.

One reason may be that it is less academic than other genres: it is first of all concerned with how to do things rather than narrating or arguing. Two concrete exponents of procedural discourse are recipes and guide books, both of which can serve to teach us about the world. By contrast, there is not necessarily anything intellectually exciting about manuals or technical instructions. Generally, we do not read them in order to enrich our view of the world, and we certainly do not enjoy them as artistic expression, nor do such texts generally affect our beliefs or values.

Potentially, procedural texts influence people's behaviour. For a procedural or instructive piece of discourse to be acceptable it must be written in such a way that the reader can follow the instructions, advice, guidance, and so forth that the text provides. The prototypical procedural text always has some sort of practical application to the actions of individuals or groups of people. Since the use of figures and illustrations is very common in procedural discourse, a full account of coherence would have to consider the relationship between the actual text and illustrations, but this will not be attempted here.

Quite a few procedural texts are written for pedagogical purposes, for example, to instruct and teach people to use computer programmes. This last category is becoming more and more important. There is an obvious pedagogical challenge in writing for readers of varying experience.

Sometimes procedural texts do not achieve their desired effect. Technical instructions which presuppose too much or which fail to help the reader are a nuisance. If a manual is to serve its purpose, its user must be able to learn from it and rely on it.

Procedural discourse is strongly *context-dependent*, i.e. its organization is very closely linked with chains of events, ranging from events which the actor has full control over to situations which contain elements of risk or danger and which are marked by varying degrees of unpredictability. In some instances there may be alternative procedures open to the text user depending on what s/he is expected to do, but the choice of procedure at a given point is usually limited by the previous step(s) in a sequence of acts.

As far as I know, procedural discourse has not been subjected to much systematic research in English. One exception is a paper by Smith (1985) in which he investigates the relative importance of linguistic features as indices of text type. He uses a very limited corpus, 8 scientific texts of roughly 1,000 words each. However, only 3 of these were procedural texts. Smith concludes that

> the overall text-types of procedural and behavioral discourse cannot be established merely on the basis of proportional dominance of a certain clause text-type,... (Smith 1985: 239)

Another researcher who has analysed procedural discourse (travel-guides) is Virtanen (1988). She argues that

> A fundamental aspect of instructive, or procedural, texts is their strict conformity to experiental iconicity, which makes explicit markers of time, in their primary function, unnecessary. (Virtanen 1988: 291)

'Experiential iconicity' is defined as "the instances where an isomorphy of some kind exists between the text and our experience of the world." (Virtanen 1988: 107; cf. Enkvist, 1981.)

1.1. Aim, data and method

In this paper I shall examine procedural discourse and some of its general properties. The data are taken from the Brown and the LOB corpora and from some additional texts, including a driver's manual and some computer software handbooks. Section 2 presents a brief survey of previous research and ends with a formulaic definition of procedural discourse. Section 3 gives a brief account of procedural discourse in Brown and LOB, and, finally, Section 4 describes some of the linguistic characteristics of procedural discourse in English.

2. 'Procedural' versus 'instructive' discourse

2.1. What is a procedure?

Two definitions of 'procedure' found in my *American Heritage Dictionary of the English Language*:

> (i) "a manner of proceeding; way of performing or effecting something";
>
> (ii) "an act composed of steps; course of action".

Both of these definitions fit some of the texts investigated, but (ii) is undoubtedly the interpretation that best conforms with the definitions of 'procedural' given by text linguists.

In computer science a procedure is a subprogramme which can be repeated. It is characteristic of computer programmes that decision-making must be explicit. Alternative courses of action often have to be built into the programme, which explains why conditionals are so common. Such subprogrammes probably make up the most extreme type of formalized procedure.

2.2. What text linguists tell us about procedural discourse

The linguists who have contributed most to our understanding of 'procedural' discourse are Werlich (1976), Longacre (1976; 1983), Trimble (1985), and most recently, Dixon (1987).

Werlich does not use the term 'procedural' but distinguishes between (a) *instructions* (based on a 'subjective view'), and (b) *directions* ('objective'). Of these two subtypes, instructions display more variation and are less formalized and less restricted than rules, regulations, etc. According to Werlich such instructions are practical and

> can be subclassified as ... *work directions, technical instructions, recommendations, precepts, prescriptions, recipes, motions, guides, manuals, etc.* (Werlich 1976: 131)

Regulations, rules, and norms are superordinate social and societal conventions which regulate our behaviour. It would be hard to find any regulations that apply to the making of a child's high chair (cf LOB E4) or how to do push-ups. By contrast, when driving a car, you have to ask yourself if what you are doing at a particular moment is within the law or if it is safe for you and others. In this paper I shall focus on such procedural discourse as falls under 'instructions'.

Both Werlich (1976) and Trimble (1985) have described some of the linguistic properties of instructions in English. According to Werlich, written instructions are characterized by commands, and statements containing the auxiliaries *should, ought to, have to, must*, or *shall* (1976: 122). These features are obviously inadequate on their own for the characterization of procedural discourse.

Longacre (1983: 3) defines the term 'procedural' as follows:

> Procedural discourse (how to do it, how it was done, how it takes place) is plus in respect to contingent succession (the steps of a procedure are ordered) but minus in respect to agent orientation (attention is on what is done or made, not on who does it).

Like procedural discourse narrative is +[contingent (temporal) succession], but it is +[agent orientation]. The former feature "refers to a framework of temporal succession in which some (often most) of the events or doings are contingent on previous events or doings" (1983: 3).

In a previous book Longacre (1976: 200) established the further linguistic features of narrative and procedural texts in the following way:

NARRATIVE	PROCEDURAL
1. First/Third person	1. Nonspecific person
2. Agent oriented	2. Patient oriented
3. Accomplished time	3. Projected time
4. Chronological linkage	4. Chronological linkage

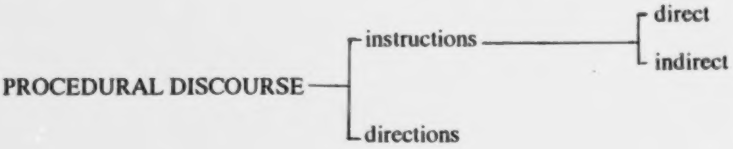
'Nonspecific person' is typically manifested as *you*, but since procedural discourse is patient-oriented, it is natural that you can expect a high frequency of passive clauses with patient subjects. In the investigated corpus a marked exception to the use of 'nonspecific person' is Brown E2, which reports on how the writer (1st person) looks after her garden, thus providing the reader with a model.

Projected time is manifested as present tense, modals (including *will*) + infinitive, and imperatives. These features can be further supplemented with *if*- and *when*-clauses and purpose clauses in thematic position.

Although prototypical procedural discourse and narrative share temporal sequentiality, the former differs in its main purpose, that of representing a description of a course of actions which together makes up a procedure, a macro-act, if you like. A crucial property of procedural discourse which implicitly underlies Longacre's notional category is that of *purpose*. He envisages an underlying abstract performative verb PRESCRIBE (or RECOUNT for 'how it was done') for procedural discourse. This may then have other subordinate performatives such as ADVISE, RECOMMEND, SUGGEST, and so forth. It is the overall purpose of the text that allows you to consider it a kind of macro-act.

Trimble distinguishes two types of instructions, direct and indirect. With reference to Werlich's examples, the imperative form would be direct, whereas the use of modals and the passive would be indirect. Fig. 1 gives a crude representation of procedural categorization so far.

Figure 1.



Antoinette Renouf defines 'procedural' as follows:

> Procedural texts give advice on how to proceed in a given area, if the reader has given aims. They do not exhort the reader to do a particular thing, but only provide relevant facts, and suggest what is intended to be an appropriate course of actions, should the need be there. (Renouf 1987: 13)

While travel guides can be highly descriptive and allow the addressee a great deal of freedom as to what to look at and in what order, a technical handbook often contains accounts of very strictly ordered procedures.

When describing his textual dimensions, Biber (1988: 140) makes this distinction between 'procedural' and 'expository' discourse:

> Procedural discourse differs from expository discourse in that it is event-driven and concrete rather than conceptual and abstract, but with respect to Dimension 2 these two types of discourse [descriptive + procedural] are similar in that they frequently use non-past verbal forms and attributive adjectives rather than past tense forms, third person animate referents, etc.

By 'Dimension 2' Biber refers to "discourse with non-narrative purposes (expository, descriptive, or other)" (1988: 115). What Biber says about attributive adjectives may be purely accidental and probably has to do with his choice of text (Brown E07, "Interlocking frames"). Thus, it would hardly apply to procedural discourse in general.

An interesting question raised by Dixon (1987) is whether procedural discourse can have the same kind of representation as a text belonging to one of the other major discourse categories, i.e. is it the case that procedural discourse represents a "mental plan", which does not simply reflect the information present in the text but also, or rather, the way in which the representation may be used (ibid: 70)? Dixon argues that

> In contrast to other discourse forms, the appropriateness of a mental plan is determined primarily by the task, not by the directions from which it was constructed. That is, a plan is appropriate if it allows one to perform the task correctly and efficiently. (Dixon 1987: 71)

Since a given event may presuppose another event, it seems reasonable to assume that where you are dealing with a strict procedure involving a sequence of events or actions, what van Dijk terms a "compound act" (1977: 177), textual coherence is dependent on to what extent it conforms to such a plan. There is a global intention behind the text and unless that intention is realized as a compound act, it will be unsuccessful, at least in part. The addressee may have an incomplete mental plan in his mind, but by following the instructions the plan will be completed.

To sum up: it is possible to capture the essential character of procedural discourse with the formula

X PRESCRIBE HOW Y DO Z

where X = the knowledgeable text producer, Y the ignorant addressee, and DO Z the goal. The macro-act PRESCRIBE belongs to the DIRECTIVE type of illocutionary acts, but its more specific micro-acts, like ADVISE, CAUTION, RECOMMEND, SUGGEST and WARN are all rather low in illocutionary force compared with ORDER, COMMAND or even REQUEST. This explains the high frequency of indirect instructions in most of the texts examined.

3. Standardized corpora and procedural discourse

For this paper I have gone through Category E ("Skills, trades and hobbies") in the Brown and the LOB corpora. There are also some passages from computer software manuals and a manual for drivers.

Category E in the Brown Corpus contains 36 texts, the LOB Corpus 38 texts of 2,000 words each, i.e. in all 148,000 words. Since Category E was not established on the basis of discourse theory, it is not surprising that it contains text samples that are primarily expository or descriptive. Also, the texts that can be classified as procedural are by no means procedural throughout. In all, the corpus comprises about 82,000 words.

However, in this connection I am not interested in detailed statistics. Instead my observations on text type are based on the overall impression given by reading the texts.

Some examples of what the corpus contains of instructions may be in order. From the texts in Brown and LOB I learn how to do push-ups, and after that I am told how breakfast should best be served in bed. I can then go out in the garden and try to remember what I have learnt about making a vegetable garden, or growing pansies. In the swimming pool I am reminded to check whether the walls feel slippery. There is detailed advice on how to look after the pool and what to do in different situations at different times of the year.

Alternatively, I can follow a very strict waltzing procedure with my wife, who afterwards has the chance of learning how to do crochetwork or make advanced pottery. Meanwhile, I myself learn how to use an electric drill because I am going to build my own house and a boat (there are instructions for that as well). Finally, if I am living in the country, I can learn about feeding pigs (GB) and beef cattle (US). And if I get tired of all this, I can try to escape to my computer and learn some programming.

4. Some linguistic characteristics of instructions

The simplest kind of instruction is one which involves a sequence of events in which each event is dependent on one or more previous events, as in crocheting:

(1) Step 1 - Make a Loop.
    1. Grasp thread near end between thumb and forefinger.
    2. Make a loop by lapping long thread over short thread.
    3. Hold loop in place between thumb and forefinger.
(LOB E1 193-6)

There are 5 steps in the whole procedure, but each step consists of 1-3 acts. The grammar in such brief instructions resembles that of headlines, but its distinctive features are the initial imperatives, and the use of process and place adjuncts (Quirk et al 1985). The verbs are usually transitive.

Simple procedures like these could be called SCHEMAS, to adopt a term used both in situational semantics and artificial intelligence. Schemas are typically repeated and can make up a sequence of events on their own or be part of a longer procedure. It follows that schemas would be a characteristic of procedural texts.

A slightly more complex sequence of events is represented by this passage from a handbook on how to use DataEase, a database program:

(2) To change directories:

> 1. Select 0:NONE from the window menu and press RETURN.
> 2. Press the Up Arrow key (↑) once to move the cursor into the Directory field, the existing directory name disappears.
>
> 3. Press F6 FIELD CLEAR and the existing directory name disappears.
>
> 4. Type C:\DEASE\TUTORIAL and press RETURN. DataEase displays a window menu that lists the names of the databases in the directory. (DataEase 1988: 1-3)

The goal or purpose is explicitly indicated in the initial purpose clause (*To change directories*). Numbering marks the ordering of the steps. In this extract, (1) and (4) each represents two events, which simply illustrates that a sequence of events can be embedded in a bigger event. (2) indicates that there may be a choice between a single act or event and a repeated act (event). In addition, (2)-(4) contain descriptions of the results of the various acts. These are part of the 'instructional information', i.e., to quote Trimble:

> ...discourse that 'assists' instructions by providing corollary information: cautions, warnings, specifying statements, descriptions, and theoretical considerations. (Trimble 1985: 96)

The role of such information varies in different types of procedural discourse. Its share is bigger in texts which are explicitly user-oriented, as in pedagogical texts.

The use of initial PURPOSE clauses (or equivalent expressions) is a particularly common way of opening a paragraph in some types of procedural discourse, as in computer manuals:

> (3) To join one document into another, follow these steps:...
> (Alfieri, 1988: 61)
>
> (4) To leave this menu without doing anything, press F1 Cancel,..(ibid, 84)

Both clauses could have been expressed by *if*- or *when*-clauses:

> (3') If (When) you want to join one document....
> (4') If (When) you want to leave this menu without ...

The specification of contingency by *when*- or *if*-clauses is also extremely common in manuals:

> (5) *When* you type 5 or c [Cartridges and Fonts], WordPerfect displays the select printer: cartridges and fonts screen. *If* you have a conventional printer, you'll see one or more selections under the Resource column. *If* you have a laser printer, you'll work with both the Cartridge Fonts and maybe the Soft Fonts resources (Chapter 35). (Alfieri, 1989: 105; italics mine, KW)

If-clauses suggest more clear-cut options than *when*-clauses. Tottie (1986: 113) shows that finite *if*-clauses are more common in speech than in writing and attributes the differences in distribution to situational and stylistic factors. According to Quirk et al. (1985: 1086), *when* and *if* used in this way can be paraphrased by such prepositional phrases as 'in cases when' or 'in circumstances where'. Characteristically, such contingency clauses are put in sentence-initial position (and even paragraph-initial position), providing the background for the rest of the sentence or paragraph. Conditions are often combined with alternatives.

There are several examples in the Brown and the LOB corpora, such as,

> (6) *When* considering windmills from the photographic viewpoint, it will soon become apparent that they are not the easiest of subjects, and that **if** something more than "just another record" is to be made of each mill as it is discovered, then *quite a little thought must be devoted to the problems which may arise.* To obtain a really first-class result I consider *it is essential to have a bright sunny day with blue sky and good strong cumulus clouds* - windmills usually look their best against this cotton-wool type of sky. (LOB E10 64-71)

Evaluative statements like *I consider it is essential that*...(an implicit recommendation) are common in this kind of manual.

There are obvious differences between giving advice on taking good pictures and the stricter procedures found in cooking or computing, or repairing your car. If you instruct the buyer of a camera how to put in a new film, this can be expressed by a schema or stepwise procedure, whereas a schema would be more difficult to imagine for instructions on how to take good photographs since photography involves a number of factors to consider simultaneously in specific situations.

The driver's manual contains not only rules and regulations but detailed advice on how to drive a car properly. There is a strong concern with what is safe and lawful. Even so, the fact that the book was written for a wide audience of varying background has set its mark on the style. This is a typical paragraph:

> (7) If you must stop on a road or unload where your vehicle is likely to inconvenience other traffic *use your hazard warning lights* to warn other road users of your presence. But *do not use them as an excuse for parking or stopping when you should not. Remember to switch them off before driving on; they must not be used while your vehicle is moving.* (*Driving*, 1979: 118)

The use of *do not* and *must not* and *should not* are reminders of the driver's duty to obey rules and regulations. They reflect the voice of a superordinate legal authority while in the guide book or the computer manual the one who is in the know is the text-producer. A special case of the expert is the teacher, as in the tutorial-type book, or possibly the elementary cookery book.

Specific indirect instructions

Since the speech acts underlying procedural texts are related to the illocutionary macro-act of directives, it is natural that they should vary in degrees of directness and indirectness. To the specific linguistic features already mentioned I therefore want to add indirect prescriptive acts such as illustrated in the following (italics mine, KW):

> (8) *it may be useful to remember that* there will be less splashing when joints are cooked longer, at a lower temperature*; when the meat is covered with foil; when a container is well filled*; and that the oven floor can be protected from spilt juice *if a tray is put under pieces of pies or tarts*. (LOB E25 65-9)
>
> (9) Our experience has taught us that *it pays to buy the best equipment possible*, from pipes to brushes. (Brown E19 161-2)
>
> *(10) Be sure to have plenty of frankfurters and buns on hand. (*Brown E14 147-8)
>
> (11) *It might be a good thing* to have a bottle or two [of Retsina] for the initiated, and stick to a white dry Samos for the majority. (LOB E19 17-19)
>
> (12) *It is essential that* all flowers and foliage appear to be growing from one root or indeed from one bulb. (LOB E23 93-4)

Hedging like that in (8) is an extreme instance of indirectness. A complete analysis of such examples of advice, recommendations, suggestions, etc lies beyond the scope of this paper. The important thing is that the use of such devices contributes to the procedural character of the text as a whole, and that it reflects writer-reader interaction.

5. **Conclusions**

When classifying procedural discourse it is important that we ask ourselves whether the procedure is primarily used to

> - enforce laws, rules, regulations, etc;
>
> - provide information on something the addressee is free to experience (as in guide books);

- instruct or advise the addressee on the best ways of doing something (e.g. doing push-ups, waltzing, taking photographs, taking the carburettor to pieces, driving a car);

- instruct the addressee on how to use tools, instruments, etc;

- instruct the addressee on how to produce something (e.g. make bouillabaisse, build a house, write a computer programme).

The question arises whether 'procedural' is a term that can profitably apply to all those texts in which the addressee is invited to behave in a certain manner. It is likely that there are contexts where we get involved with sequences of events which are not determined by the agent but by external factors or a combination of external and agentive factors. In some of these it would be hard to identify strict steps in a procedure of the kind that the prototype presupposes.

As in the other major discourse categories, it turns out that we are dealing with a scale with typical procedural texts at one end and multi-type indirect instructional texts at the other end. In both the procedural element may be only one of several. A combination of procedural and descriptive/expository elements is quite common whenever the purpose of the text is not simply to indicate ordered complex actions but also to provide information.

Notes

1. For more detailed analysis, see Wikberg, "Discourse Category and Text type: Procedural Discourse in the Brown and LOB Corpora" (forthcoming).
2. "A series of events will be called a sequence of events if they are causally related" (van Dijk, 1977: 170).
3. Barwise and Perry, 1983: 90: "A *schema* S is a set (!) of event-types."

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A sense of relief: Backgrounding in argumentative student writing

LARS SIGFRED EVENSEN

Abstract

This article presents two developmental studies of discourse patterns in student writing. Within a hierarchical discourse framework it is argued that the theory of grounding may be used to develop functional interpretations of formal developments.

The two studies suggest that the essential writing development at secondary educational levels (year 8 and above) may be characterized by emerging discourse structures at low superstructural levels. The function of these structures is to offer background information essential to e.g. interpreting the relevance of the argumentation.

The studies also suggest that patterns of development are similar in first-language and foreign-language writing.

1. Acquisition of written discourse

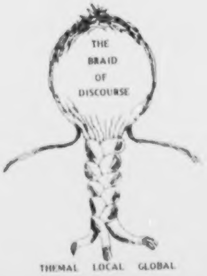
The applied study of developing student writing raises a number of research problems:

- How does the discourse level develop in student writing? Are there particularly central dimensions of development?

- What potential and which problems are students facing in writing at different educational levels?

In approaching these issues I shall adopt a hierarchical perspective on discourse, where coherence is viewed as the outcome of interaction between several types of phenomena. Grimes's (1975) classical 'thread of discourse' should hence be conceived rather as a 'braid of discourse'. In Figure 1 below, Agar & Hobbs's (1982) hierarchical coherence model is mapped on to a figure from classical Norwegian literature.

Figure 1. *A discourse model of Synnøve Solbakken.*



In this model, discourse coherence is conceptualized as the simultaneous occurrence of referential (themal) coherence, local coherence (resulting from functional and semantic relations between adjacent utterances) and global coherence (resulting from functional relations between larger discourse units). The distinction between themal and global coherence is closely related to van Dijk's 1980 distinction between the macrostructure and the superstructure of a text. Following van Dijk 1982, I shall assume that the superstructure of a text contains meso-level structures between the top-level and the bottom-level. The rest of the article will focus on this particular aspect of coherence.

I shall adopt grounding theory (Hopper, 1979; Hopper & Thompson, 1980; Weber 1983; Chvany, 1985) as a way of linking form to function. Grounding theory applies principles from gestalt psychology to discourse processing. Ilstad (1982:34) states that "in every stimulus field there is some part (figure) that in some way distinctly stands out from the rest (ground)" (my translation, LSE). In this approach, meaning is in a fundamental sense a relational concept, a relation which will be referred to in this article as 'relief'.

Applications of gestalt principles to narrative analysis have shown that the narrative sequence of actions/events forms the figure, or the foreground of the narrative (Reinhart, 1984). If, however, there is no clue in the discourse or in the context to the function or relevance of the narrative sequence, the reader will be left with a "So what?" reaction. A narrative worth telling thus also contains or implies background material of a descriptive, explanatory or evaluative nature, which brings the event sequence into *relief* in relation to e.g. actors' motives, goals or any contextual implications of the events narrated (cf. Labov and Waletzky, 1967; Labov, 1972 on evaluation in narrative discourse). These backgrounded parts of the discourse are signalled by a number of linguistic phenomena, many related to tense-aspect patterns (Fleischman, 1985). Particularly foregrounded parts may also occur, as when dramatic parts of the story are signalled by a temporary shift to 'historical' present tense (Schiffrin, 1981).

Most of the early studies of grounding used narrative discourse as their starting point (see e.g. Hopper, 1979; Schiffrin, 1981, Fleischman, 1985; Chvany, 1985 and references in Weber, 1983). Recently, other types of discourse have been included as well. Thus Ingegerd Bäcklund (1988) has presented a stimulating study of grounding in expository writing. In this paper I shall adopt a grounding approach to argumentation.

In doing so I shall assume that both of the argumentative categories that Stephen Toulmin (1958) refers to as 'claim' (or the writer's position) and 'data' (the arguments) conventionally function as foreground. The relation between position and arguments is pointed out by van Eemeren, Grootendorst and Kruiger (1987) as a basic dimension common to all major theories of argumentation. 'Warrants' (linking data with mutually known values) and 'backing', on the other hand, I shall assume act as background, having as a major part of their function to place the argumentation within a cultural, evaluative context.

The Toulmin model does not contain a superstructural element. It thus excludes a number of organizational aspects that are very relevant to the discourse analysis of written argumentation, which typically contains larger discourse sections ordered on the basis of cultural conventions and global pragmatic considerations. I shall follow Tirkkonen-Condit (1985) and Connor and Lauer (1987) in assuming that written argumentation often contains an introduction. This part of the discourse is multi-functional, introducing the theme of the discourse, demonstrating the relevance of the issue at hand, creating expectations in the reader and guiding her/him in the reading process. Also, an evaluation may be included as a coda, summarizing major points and suggesting implications of a proposed solution to a specific problem. In the analysis below superstructural categories like introduction, elaboration and coda will all be treated as backgrounded parts of the discourse. At lower levels in the superstructural hierarchy, comments, explanations and illustrations will be viewed as background as well.

Within a relational approach to meaning, backgrounded parts are very important. They are necessary both to establish the relevance of the discourse, to partition it into readable chunks and to optimize information density. Thus, effective backgrounding (establishing relief) is a sign of high quality writing. This aspect of writing quality is one that many student writers acquire very slowly and painfully.

In this paper I am first going to briefly summarize a set of results from a study in foreign language writing, suggesting some answers to the research questions mentioned initially. This summary will then be used as background to a follow-up study reported here, comparing foreign language to first language writing. The second study will thus function as an informal test of the validity of the first one.

The focus will be on two aspects of discourse acquisition. The first is the hypothesis that the lower superstructural level is the developmentally most important *formal* level in narrative and argumentative written competence at secondary levels of education. One substantiation of this hypothesis is the interpretation of some student texts as a series of headings with only embryonic paragraphs "hanging" under them. The hypothesis also captures teacher observations leading to their advice: "Show, don't tell."

The second aspect is the hypothesis that the most important *functional* level of development is related to grounding: more specifically that, as students develop, there is an increase in backgrounded information bringing foregrounded parts into relief. Also, there is clearer "closure" of paragraph level discourse structures in more advanced student writing, leading to improved readability.

2. Study I: The NORDWRITE Project

The NORDWRITE project (1986-1989) was a joint Nordic investigation into the discourse-level development of student writing in a foreign language. The material consisted of four national corpora, documenting narrative and argumentative writing in English as a foreign language (EFL), at six grade levels, from grade eight in comprehensive school to first year at university or college (cf. NORDWRITE Reports III for an extensive materials description).

The narrative material was based on an assignment with cue words invoking an accident frame (crash - police - ambulance). The argumentative material was based on an assignment asking for the student's preference with regard to living in a town versus living in the country. In each participating class these two assignments were split evenly between the students. The time available for writing was two lessons (80-90 minutes).

In the present paper results from a subset of the Norwegian argumentative material from grades eight and nine are included, firstly to illustrate tendencies in the larger Nordic material and secondly as a basis for comparison with results from a follow-up study. The subset consisted of 26 compositions. Twelve of these (the high skill group) had received high holistic scores from the students' teachers, and fourteen (the medium skill group) had received medium scores.

The analyses in the NORDWRITE study resulted in a fairly large pool of variables discriminating between students writing at different age and skill levels. In the general discussion it was realized that most of the variables in the pool could be interpreteted as being related to grounding. Below I shall exemplify this overall result by describing two variables taken from the Norwegian study. The detailed inventory of final results will be presented in NORDWRITE Reports IV (forthcoming).

One variable studied in the Norwegian argumentative material was patterns of verb sequence across clause and sentence boundaries. These patterns consist of discourse-motivated shifts away from the normal sequence of simple present verb forms (see NORDWRITE Reports II, Evensen, 1990 and, forthcoming a for details). Such shifts occur in argumentative writing when e.g. a narrative section is used to illustrate a point being made (e.g. by placing it in its historical context) or to contrast present reality with a past alternative state of affairs. A shift may also be used for evaluative purposes, as when present positions are discussed in relation to alternative discourse worlds.

An example from a student text may illustrate the evaluative function of alternating between different discourse worlds. In this excerpt an alternative world section is introduced as a summary, rejecting the alternative point of view.

Figure 2. *Motivated shifts away from a present tense argumentative sequence, in a 9th grade text.*

> In the country.....it's long between the houses and there are very few busses there. When you want to go shopping, you have to go to the nearest town, because there are very few shops in the country.
> I *wouldn't live* in the country because I *would feel* lonely there.
>
> (1507)

It was found that the frequency of such shifts discriminated between student writers from grades 8 and 9 (as it did in the narrative material for a different verb sequence sub-system). Results are presented in Table 1, in conjunction with the results from Study II.

The second variable studied was the relation between local and global discourse markers. Here a global marker (henceforth termed 'pointer ') is defined as a discourse marker governing a discourse structure of three or more minimal discourse-functional units (see Lieber 1980 and Lindeberg 1986 for discussions of clause-equivalent functional units as a tool for discourse analysis; see Evensen, 1990b for a discussion and classification of pointers).

The results for the global use of pointers are presented in Table 2, in comparison with similar data from first language writing.

It was found that more frequent use of pointers correlated with age, such that grade 9 students structured their arguments explicitly at more global levels. It was also found that older students used a greater variety of pointers (to be documented in NORDWRITE Reports IV).

3. Study II: The DEVEL Project

3.1. *Aims and hypotheses*

The study to be reported here was carried out within a new inter-disciplinary Norwegian project which is trying to map development in first language writing from a socio-cultural angle - "Developing written language competence - The DEVEL Project." The specific sub-study reported here is the first part of a larger study within the project, where effects on grounding of different approaches to the teaching of writing are investigated.

The present sub-study compared first language argumentative writing in grades 8 and 9 (lower secondary school) with foreign language argumentative writing at the same grade levels. The student compositions were taken from traditional teaching of writing.

The research was carried out under the hypothesis that development in discourse-level writing ability is very similar in first language and foreign language contexts, and hence that the development of grounding patterns in a first language context should resemble those found in a foreign language context.

The L1= L2 hypothesis is well known from morphological ESL research (e.g. Krashen, 1982). The hypothesis is also consistent with earlier discourse analyses. In analyzing Norwegian as a first language (NL1) Zwicky (1984) found that at both lower and upper secondary levels a discourse measure of lexis - 'follow-up' - (Fløttum, 1981) correlated positively with teacher evaluation. In the Swedish part of the NORDWRITE Project using this measure, similar results have been obtained for foreign language writing (Linnarud, forthcoming).

3.2. Material

The first part of the material consisted of a subsample of the Norwegian NORDWRITE corpus - 26 medium-to-high quality texts from grades 8 and 9. The second part consisted of a subsample drawn from the Trondheim Corpus of Applied Linguistics (Evensen, 1982) - 16 medium-to-high quality texts from grades 8 and 9. The quality ratings in both subsamples were based on holistic teacher judgements.

The low skill group was excluded from the present study because no comparable L1 argumentative data were available from this group in grade 8. This fact is a conspicuous characteristic of a large national corpus of student writing. The corpus here reflects the relative neglect of argumentation in the Norwegian pedagogical tradition (the consultant being the supreme outcome of the educational system). This neglect of argumentative writing also became apparent when the NORDWRITE group pretested a battery of tentative assignments for its data collection. Many teachers in grades 8 and 9 complained that argumentative assignments would be too difficult for their students. The student material proved them wrong.

Two argumentative topics were chosen from the Trondheim Corpus at at each grade level. In grade 8 these were "Cars - luxury or necessity?" and "Women and athletics". The second of these topics was written in reply to a male chauvinist prompt. In grade 9 the two topics were "My opinion of the Olympic Games" and "Youth and work". The first assignment was given a few months after the Moscow games had been boycotted because of the invasion of Afghanistan - the boycott thus having been recently debated. The second assignment was written in reply to a "letter to the editor" complaining about alleged laziness and lack of responsibility among youngsters.

3.3. Results

The results for verb form sequence are presented in Table 1 below. The results are reported as ratios of motivated shifts per functional unit.

Table. 1. *Motivated shifts in verb sequence per functional unit (N). Ratios for EFL and NL1 argumentative writing. Medium to high skill levels in grades 8 and 9.*

	EFL	NL1
8th grade	(N=291) .07	(N=171) .15
9th grade	(N=625) .09	(N=185) .20

The table also shows that the general frequency of shifts is much larger in the first language material.

The results for the degree of explicitly signalled global organization are presented in Table 2 below. The results are reported as ratios of global pointers per local connector (N).

Table 2. *Global pointer/ local connector ratios in EFL and NL1 argumentative writing. Medium to high skill levels in grades 8 and 9.*

	EFL	NL1
8th grade	(N=139) .28	(N=131) .21
9th grade	(N=247) .33	(N=175) .24

This table shows that, once more, the developmental direction is the same for both sets of texts. Here, however, the ratio of explicit global organization is higher in the EFL material than in the NL1 material.

4. Discussion

Shifts in verb form sequence may sometimes introduce foregrounded material, but for the sake of the argument in this paper I shall assume that most shifts code backgrounded parts of the discourse at a low superstructural level. This function is exemplified in the EFL text excerpt below, where the shift signals the onset of a mini-paragraph evaluating an alternative world.

Figure 3. *A sample low meso-level shift in verb sequence.*

> In the country there *is* a lovely nature......
> If you *live*(O) in town you *wouldn't have* the
> possiblety to see this.
> You *wouldn't* even *notice* that the spring *was* there.
>
> In the country it *is* much better air than it is in the
> towns...

(0610)

In interpreting the results from the pointer study I shall assume that these have a discourse function different from local connectors, in that they help establish the superstructural "contours" of a discourse. They both delimit parts of a "composition" and code the specific function of each part in relation to other parts. These results are consistent with a finding in the Finnish NORDWRITE material, where the positive correlation between low meso-level units (functional paragraphs) and typographical paragraphs increased with increasing skill (Lindeberg, forthcoming).

The issue to be discussed is whether the EFL results seem transferable to a first language context. The material presented so far seems to support this hypothesis. In both sets of data there is a similar developmental tendency in the direction of both more background information and more clustering of text content at a low meso-level. The extent of these differences will be explored in a more qualitatively oriented study of alternative worlds in student argumentation (Evensen, forthcoming b).

5. Conclusions and implications

5.1. Theoretical

The present material suggests that writing development does not seem to go only in the direction toward more global structuring, but also in the direction from global structuring to more structure at the meso-level. Many of these meso-level structures have as their function to offer background information.

This pattern may suggest a link with general language acquisition patterns. Karmiloff-Smith (1984) has suggested such a line of development (i.e. from local to global to meso) in oral child language development. She has also suggested that the frequency of explicit signals peaks at medium levels of development, to be gradually replaced by more diverse and more implicit means of structuring at higher levels. The present material may well allow for such an interpretation. In that case, we are partly studying general language acquisition patterns even when we are studying students learning to write in a foreign language.

5.2. Pedagogical

The findings presented in the present report imply that there is a strong untapped potential in student writing. Fairly advanced linguistic patterns seem to be within reach for some students at fairly low levels of education. Both EFL and NL1 students in grade 8 thus outperform teacher expectations of student ability. Mid-level students are able to produce fairly coherent arguments in a foreign language by the end of grade 8. Still, argumentative writing is extremely rare in Norwegian schools at these levels, in both first- and foreign-language teaching.

Thus, the findings also establish a case for more argumentative writing in schools. Argumentative writing is probably the most important form of writing in out-of-school contexts (Degenhart 1987), and an important prerequisite for active democracy in a modern society.

In an innovative school context, argumentative writing may play a role in developing the process-oriented approach to writing. The potential here lies in extending the relatively narrow text-type repertoire typically found in process-oriented teaching, without losing the new focus on the student writer as an autonomous subject responsible for his/her learning process. When students use their own, genuine opinions and convictions as raw materials for the writing process, they will also need linguistic tools for voicing these opinions. Some of the tools needed are very complex (like verb forms signalling alternative discourse worlds in argumentation or literary writing), but many young writers do develop these tools when needed, even in traditional (non-)teaching contexts.

In a pedagogical evaluation it is also important to be aware of the intuitive appeal present in the notions of foreground and background, when these are presented in less technical terms than has been done here. In writing instruction and evaluation they may thus be successfully introduced in classrooms as terms inviting a more functional approach to meaning, and they may perhaps promote discourse studies by language teachers of both linguistic and literary inclinations.

Notes

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Text and reference

EIJA VENTOLA

Abstract

The article discusses the system of reference as one of the linguistic systems operating in English texts. It introduces reference systems as systems which code cohesive dependency relationships between entities in texts. References in texts are treated as ways of introducing and keeping track of text paricipants. The cohesive operation of referential systems and their realizates are exemplified in academic texts. Native writers rarely have difficulties in realizing referential choices, but it is argued that non-native learners of English often do not fully comprehend the functions of reference items in texts; their use of such reference items as articles is not systematic and may lead to misunderstandings and obscure the intended meanings. The article offers some explanations of the problems experienced by non-native writers.

1. Introduction

An essential characteristic of a cohesive English text is that *references to text participants* are clear and that no confusion can arise as to which particular entity the writer means. This article first introduces a network of English REFERENCE systems and illustrates some of the possible lexicogrammatical realization choices. It then discusses the functions of reference in terms of *text participant identification* in written English academic texts, and looks at how such participants are introduced into texts (by articles, pronouns, etc.) and then kept track of by writers for the benefit of readers. Such *participant tracking*, or *reference chaining*, increases the cohesiveness and consequently the understanding of English texts. If writers have not internalized cohesive reference functions and realize them inappropriately, as is often the case with young writers or foreign language writers, there will be difficulties of reference interpretation. Finally, the article discusses some of the referential problems which occur in academic texts produced by second language learners of English and offers some explanations of these problems.

2. Methods and Data

The theoretical framework used for the text analyses in this article is that of *systemic-functional linguistics*. The issues concerned with reference and its role in creating cohesion in texts have been discussed extensively, e.g. in Halliday and Hasan (1976), Martin (1983), Halliday (1985), and Ventola (1987). The analyzed data are academic scientific texts in the field of public health sciences, written in English by native English writers and Finnish writers. The research on which the observations reported in this article are based is part of a large-scale contrastive study, presently in progress, on how native English professionals and their Finnish colleagues write various kinds of academic texts in English (see Ventola and Mauranen, 1990, forthcoming).

3. Reference: Systems and Structures

It has been suggested that participant identification is a strong candidate for a functional universal: i.e., all languages have this function and have means to realize it, although the linguistic means may be different (Martin, 1983: 48). What exactly is meant by participant identification? It can be defined as a way in which various entities such as people, places, things, and events are introduced into a text, and once they are there, the way by which one refers to them (Martin, 1983: 48).

If a text includes frequent references to particular text participants and the reference chains are extensive, we can speak of *central* text participants, whereas those participants to whom reference is made only sporadically must be considered to play only a minor role in a text and are therefore called *peripheral* text participants. In English, referential continuity involving one and the same participant is coded by the discourse system of REFERENCE and is realized on the lexicogrammatical level by nominal groups at the group rank. Every time that a writer generates a nominal group in a text, he is providing the reader with a considerable amount of referential information. Figure 1 shows the choices in the REFERENCE system network, and Table 1 includes realizational examples (for details, see Martin, 1983; Ventola, 1987).

This article will examine how central participants are *introduced* into texts by *presenting reference items* and how, once they are in the text, they are tracked by the writer by *presuming reference items*.

Figure 1. *A network of major reference choices in English.*

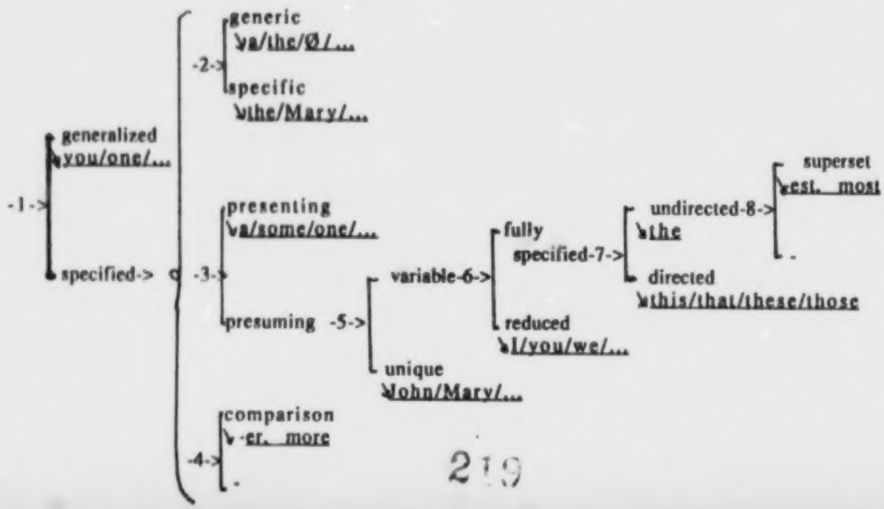
-1->
generalized
you/one/...
specified->
-2->
generic
a/the/Ø/...
specific
the/Mary/...
-3->
presenting
a/some/one/...
presuming
-5->
variable-6->
fully specified-7->
undirected-8->
superset
-est, most
the
-
directed
this/that/these/those
reduced
I/you/we/...
unique
John/Mary/...
-4->
comparison
-er, more
-

Table 1. *Realizational examples of system choices.*

System 1 [generalized / specified]: *they / the*
They say mice spread diseases / The biologists say mice spread diseases.

System 2 [generic / specific]: *a / it*
I just killed a rat. / It was ugly.

System 3 [presenting / presuming]: *a / this*
A cockroach is an insect. / This cockroach is my pet.

System 4 [comparison / -]: *the -er / -*
I managed to kill the big rat, but the smaller one got away. / -

System 5 [variable / unique]: *she / Mary*
She hates rats. / Mary hates rats.

System 6 [fully specified / reduced]: *this / she*
This woman hates rats. / She hates rats.

System 7 [undirected / directed]: *the/ that*
The rat was ugly. / That rat was ugly.

System 8 [superset / -]: *the -est / -*
The biggest rat ate all the cheese. / -.

When the writer marks the reference as presenting (e.g. with such items as an indefinite article, an indefinite pronoun), he signals to the reader that the identity of the text participant in question is previously unknown. When the writer marks the reference as presuming (e.g. with such items as a definite article, a demonstrative, or a personal pronoun), the reader will know that he is able to retrieve the identity of the participant. Once the link between the identified participant and the source of interpretation is established and sustained by subsequent references, a cohesive *reference chain* has been created. Since the texts that will be examined in detail are written texts, all presuming references will be *endophoric references*, i.e. the presumed identity of the text participant will be retrieved from the verbal context and not from the extralinguistic context (see Halliday and Hasan, 1976).

4. Participant Identification and Tracking of Central Participants in Academic Texts

The system of REFERENCE in English has been developed for the benefit of the decoder of texts. It helps the decoder to get to know and keep track of the central text participants. The encoder of the text is responsible for marking the participant relations so that they can easily and effectively be interpreted throughout the text. Participant identification and reference functions are prominent in academic texts, for example, when research subjects, groups, etc. are introduced as participants into the text.

In academic research a good writer has to be able to *introduce* the different experimental groups and their members efficiently and with minimal effort to the reader. This is usually done by encoding the relevant nominal groups with a *presenting reference item*. Below, the reference system and its realization in the functions of introducing and keeping track of the various groups of subjects studied will first be illustrated in Text 1a, produced by *native English writers*, and then contrasted to Text 2a, produced by *Finnish writers* in English. Both texts belong to the field of public health science (all introduced and tracked central participants are italicised and the type of reference is given in the brackets; owing to limitations of space, all examples have been shortened; thus, '...' signals an elision from the text; italics are added in all textual examples).

Text 1a (the English writers):

> ... we were able to obtain pharmacy record data for *862 (95%) persons who consented to the record search* [presenting ref.]. This report pertains to *the 862 persons for whom we have personal interview data and a complete set of medical and pharmacy record data* [presuming ref.]. ... *The 862 respondents* [presuming ref.] ranged in age from 18 to 89 years, with an average of 44 years and 54% were women. ... Thus, we divided *the sample* [presuming ref.] into three groups: *all males* [presenting ref.], *females with one or more sex-specific diagnosis* [presenting ref.] (Female Group 1), and *females with no sex-specific diagnosis (Female Group 2)* [presenting ref.] ... (Svarstad et al., 1987).

The first italicized nominal group, *862 persons* [zero article], introduces a participant into the text, and this participant soon becomes the central participant in the text, as indicated by the numerous presuming references to the same experimental group: *the 862 persons, the 862 respondents, the sample*. Each time, the article *the* indicates that the writer is referring to the same group as before. Somewhat later in the text this specific group of subjects is subdivided into three study groups: 1) *all males*, 2) *females with one or more sex-specific diagnosis*, and 3) *females with no sex-specific diagnosis*. As text participants these subgroups are new, and therefore the writers introduce the subgroups to the reader with a presenting reference.

When looking at a similar public health text example written by Finnish writers, Text 2a, initially at least it seems that the writers have successfully learnt the English system of introducing and keeping track of text participants.

Text 2a (the Finnish writers):

> The purpose of this study was to describe drug use among ***middle-aged women*** [presenting ref.], using the Massachusetts Study on Health and Menopause in 1981, a questionnaire was sent to a random sample of ***45-55-year-old women*** [presenting ref.] in Massachusetts, and ***8050 women*** responded [presenting ref.] In both the first and fifth follow-ups, ***the women*** [presuming ref.] were grouped, ignoring vitamins and herbs, in the following way: ***non-users*** [presenting ref.] - no use of drugs or only sporadic use (only one nonprescribed drug was used less than once a week); ***nonprescribed drug users*** [presenting ref.] - use of only nonprescribed drugs; ***prescribed drug users*** [presenting ref.] - use of only prescribed drugs; ***mixed users*** [presenting ref.] - use of both prescribed and nonprescribed drugs (Hemminki et al., ms.).

Like the English writers, the Finnish writers first introduce the general interest group with a presenting reference: ***middle-aged women*** [a zero article]. This text participant does not, however, become a central text participant, but rather the group being researched is further specified by two other presenting references: ***45-55-year-old-women*** and ***8050 women***. It is the latter text participant that will actually be followed in the study, as indicated by the presuming reference of ***the women***. This nominal group refers to the group studied, although, as will be discovered later in the text, this group is also further subdivided into subgroups. Like the English writers, the Finnish writers also subdivide the group into four subgroups: 1) ***non-users***, 2) ***nonprescribed drug-users***, 3) ***prescribed drug-users***, and 4) ***mixed users***. All the subgroups are introduced as text participants with a presenting reference. So far the Finnish writers seem to control the introduction and tracking of text participants in a very native-like manner; however, as we shall see below, they do not systematically follow the outlined principles of reference as the text continues.

5. Problems in Reference Marking

It can be expected that in a well-written text the central text participant relations are chained throughout the text. Once a central participant is introduced into a text (presenting reference), the writer has to keep track of the participant (presuming reference). If several central participants are introduced into the text, the writer has to be even more careful in keeping the references to the participants clear. Unclear references lead to wrong retrieval processes and ambiguous interpretations of text participant relations.

Usually competent native writers of academic English have no difficulties in encoding and decoding participant relations in texts. But, as will be shown below, owing to differences in the coding systems of different languages and the way in which reference functions are taught, foreign writers of English may be in a different position, and continuous participant identification problems may occur in their texts.

When Text 1a continues as Text 1b, *the native English writers* have no difficulties in marking and keeping track of the participants for the reader:

Text 1b (the native English writers):

> Sixty-three percent of *the sample* obtained at least one prescription drug in the 2-year period as measured by the pharmacy records. Seventy-one percent of *the women* received at least one prescription drug compared to 53% of *the men* (Table 1). In contrast, there were significant differences between *the men* and *the women who had female specific diagnosis* and significant differences between *the women who did* and *did not have female-specific conditions* during the study period ... (Svarstad et al. 1987).

In the first part of Text 1b, subgroups of the original group, *the 862 respondents*, are introduced according to various criteria. The presuming references to this original group are italicized (*the sample, the women, the men*). But as can be seen, the writers are not always talking about the whole group, but rather certain percentages of the participants are singled out by presenting references: *63% of the sample, 71% of the women, 53% of the men.* Thus the nominal groups as a whole are presenting, but the known text participant, the group as a whole, is also kept track of in the postmodification part (the Qualifier).

In the latter part of Text 1b, the references mark the text participants as participants whose identities are already known to the reader, the subgroups originally introduced by the writers. (Note that the group *the women who did and did not have female-specific conditions* is a complex nominal group and that the reference item *the* refers to both research groups, i.e. *the women who had female-specific conditions and the women who did not have female-specific conditions.* Such complex nominal groups and ellipses are a normal and economical way of tracking participants in English, see Halliday 1985).

At several points, but specifically in the results and discussion parts of the article, the native English writers have selected the [generic] reference instead of the [specific] for the nominal groups, as shown in Text 1c.

Text 1c (the native English writers):

> As expected, *men* obtain more drugs as *they* age, presumably as they develop the chronic diseases for which drugs are prescribed. However, the proportion of *women* obtaining medication and the number of different types of drugs obtained remain fairly high across the life span. Only the number of prescription items increases as *women* grow older. (Svarstad et al. 1987).

In Text 1c, when the writers refer to *men* and *women* they are no longer referring to the specific men and women that were studied. Consequently, in *men-they-they* we have an example of participant tracking involving generic reference ([generic: presenting/presuming] instead of [specific: presenting/ presuming]). The group *men* is first introduced into the text and then kept track of by presuming references, *they-they*.

When one observes the reference chains in Text 1 as a whole, it is easy to see how in an uncomplicated manner the native writers have used reference items to create cohesive links to keep track of the whole group of subjects studied, its various subgroups, and sub-subgroups. Keeping track of the participants facilitates the reader's task of processing the text and enables him/her to pay attention to decoding what is said about the text participants. Learning ways to refer to text participants by indefinite articles, pronouns, etc., and keeping track of them by definite articles, personal and demonstrative pronouns, etc. is part of the mother-tongue-acquisition process for native speakers of English. Only young writers are expected to have such problems as the discrepancy of reference in *Snails have a shell on their back to protect them selfs from enemy. they like to go behind a rock and it leavs a silvery track behind him.*, where the reader is puzzled by the changes of references of *snails-they-it-him* (for a discussion, see Martin, 1985: 11).

When one further examines Text 2a written by the Finnish writers, it soon becomes obvious that, in spite of being able to introduce the participants and the relevant subgroups into the text appropriately, the writers have not fully internalized the functioning of the English reference systems. In contrast to the native writers, the Finnish writers are not consistent when tracking down participants in their text, as seen in Text 2b.

Text 2b (the Finnish writers; capitals mark erroneous reference):

> Nonprescribed drugs were used by 92% of *the women* Nonprescribed pain relievers were used by 85% of *the women*, and 8% of *WOMEN* had used them daily Drugs against depression were used by 2.4% of *the women* and diet pills or 'prescribed drugs to pep one up' by 1.1%. A notable proportion of *WOMEN* were using drugs for allergy (Hemminki et al., ms.).

As in Text 1b, the writers discuss certain percentages which concern the original group researched. The subgroups indicated by percentages are appropriately introduced with presenting references [zero article or an indefinite article]. But the references to the original group of subjects are troublesome. Sometimes the Finnish writers have used *the women* and sometimes *women*. The latter references, capitalized in Text 2b, cause problems of interpretation for the reader. When reading *85% of the women* and immediately after it *8% of women*, or a *notable proportion of women*, the reader has to pause to query whether the writers are still referring to the same women, or whether these women belong to some new group of women introduced into the text, or whether, in fact, the writer refers to women in general.

Similar inconsistencies of reference are found later in the same text, in Text 2c. There the Finnish writers further discuss the original four subgroups, introduced to the reader in Text 2a.

Text 2c (the Finnish writers):

> Also *the prescribed drug users* were similar to *the non-users* in regard to most background characteristics and some health habits. Among *PRESCRIBED DRUG USERS* there were more overweight women and more women who had little exercise and who tried to restrict fat and salt intake. The health of *the drug users* was poorer, and as expected, use of health services was more common among *them*, measured both by physician contact and use of PAP-test.
>
> *USERS OF NON-PRESCRIBED* and *PRESCRIBED DRUGS* were similar to *each other* in regard to sociodemographic variables and most health habits, but *PRESCRIBED DRUG USERS* were more often overweight and abstainers from alcohol. *PRESCRIBED DRUG USERS* had more chronic disease but not sickdays or symptoms than *NON-PRESCRIBED DRUG USERS.* (Hemminki et al., ms.).

In these two consecutive paragraphs all references to the subgroups are italicized, and the capitalized nominal groups indicate the problematic reference groups. In the first paragraph, we find variation in article use: *the prescribed drug users*, *the non-users*, *prescribed drug users*, and *the drug users*. It would appear that all these nominal groups are intended to refer to [specific] rather than to [generalized] participants (ie. the studied subjects), and therefore a native English reader would expect the writers to mark all of the text participants with presumed reference items (*the*, *these*, etc.). In the second paragraph the references seem to resemble those in Text 1c, where general reference is applied instead of specific reference. But among other things, *each other* seems to indicate that the Finnish writers are, in fact, describing the features of the particular subjects in the subgroups studied rather than describing the general features of people who can generally be characterized as non-prescribed/prescribed drug users. The change from specific reference to generic seems unmotivated in these two paragraphs and consequently the article usage appears haphazard to a native English reader.

The examples and the discussion above have illustrated typical problems Finnish writers have with the reference systems and their realizations in English. Specifically, the use of articles as markers of reference is often inconsistent and not motivated textually. When seeking to explain why Finnish writers experience difficulties in marking references to text participants appropriately, we could say that we are simply dealing with careless academics who should pay more attention to their writing. This may be part of the explanation, but the reasons for inconsistencies can more likely be attributed to linguistic differences between the English and Finnish language systems, and to foreign language teaching materials and methods.

6. Linguistic differences in realizing references to text participants

Previous research has shown that the use of articles as reference markers is particularly problematic for Finnish writers of English academic texts, and that article usage accounts for the most frequent corrections made by native speakers who revise Finnish writers' academic texts (see Ventola and Mauranen, 1990, and forthcoming). Some of the reference difficulties can be explained by differences in the language systems and their realizations.

All languages need to encode participants in texts, but languages use different means to realize participant codings. Previously it was stated that nominal groups in English are those linguistic units which code text participant information. In English *every participant* has to be coded as *recoverable* or *not recoverable* from the text or context (Martin 1983: 51). For example, indefinite articles and numeratives code text participants as *non-identifiable/new*, and definite articles, various kinds of pronouns, proper names and demonstratives code them as *identifiable/given*. However, not all languages code recoverability of the participant's identity necessarily within the nominal group structure by articles and similar items.

In Tagalog (a Philippine language), for example, the means of coding are only partially similar to those of English. Tagalog codes text participants as unidentifiable with indefinite numeratives and as identifiable with pronouns, proper names, and demonstratives. But, in contrast to English, it does not code participant identification with articles, since no article system exists. Instead, participant identification in Tagalog is further realized by a combination of systems at nominal group rank and clause rank through "the cross classification of the case system, which along with the verbal affixes realizes the focus system" (Martin, 1983: 63; for a detailed discussion of the Tagalog system of reference, see op. cit.).

In many ways the Finnish language seems to be similar to Tagalog in its realization of participants in texts. There is no article system in Finnish to mark the participants as indefinite or definite. Rather, for participant identification, Finnish, like Tagalog, seems to rely on interaction between the ranks of a nominal group and a clause. In other words, at the nominal group rank there are markers (e.g. indefinite numeratives) which mark participants as unidentifiable/unrecoverable and there are markers (e.g. pronouns, demonstratives) which mark participants as identifiable/recoverable. At the clause rank recovering participant identities is conducted through the textual systems of Theme/Rheme and Given/New. Thus, in Finnish, a non-oblique nominal group which appears in the rhematic position usually introduces a text participant into the text rather than refers to a known participant (e.g. the existential sentence *Kadulla on auto* [=street+adessive-case+is+car] is translated into English as *There is a car in the street* with a presenting reference for *auto*, whereas *Auto on kadulla* [car+is+street+adessive-case] is translated into English as *The car is in the street* with a presuming reference for *auto*). Many reference difficulties experienced by Finnish writers, particularly difficulties in the use of articles, can be explained by linguistic differences in the grammatical realizations of participant identification in texts. But so far no systematic *textual* study of Finnish reference systems and participant coding has been done, although studies on indefiniteness/definiteness and on thematic questions at clause level have appeared (see e.g. Hakulinen and Karlsson, 1979: 296-311; Itkonen, 1979; Vilkuna, 1989; Chesterman, 1991).

7. The role of language teaching materials and methods

Linguistic differences do not explain all learner difficulties. We must also examine how linguistic differences are made clear and taught to foreign learners. Does language teaching facilitate learners' abilities to choose appropriate realizations for participant identification systematically?

Language teaching naturally uses the work of linguists to a large extent when making realizational differences clear to learners. Thus linguists must be encouraged to carry on the work, specifically contrastive textual studies on the differences and the similarities between various linguistic realizations of participant identification in texts. From the learning point of view such linguistic work is of most value when it takes as its basic starting point the semantic functions and their linguistic realizations rather than just the grammatical categories. This has not, however, typically been the case.

Theoretical linguists have long focused on grammatical categories rather than on semantic functions and their realizations. Consequently, in applied linguistics and language teaching and learning the emphasis has also been on grammatical categories. The learner has been learning individual grammatical categories, rather than learning how various grammatical categories can realize the same semantic function. Also, to complicate the matter for the learner, language learning materials written for non-native speakers, e.g. grammars and textbooks of English, usually deal separately with the grammatical categories in a somewhat sporadic way without building up semantic functional connections between the categories. For example, in an English textbook produced in Finland for Finnish high schools, *Wings - World of Difference* (Hughes et al. 1983), articles are explained on pages 51-3 and pronouns on pages 206-214. No indication is given of their similar function as realizates of reference system choices.

Most examples used in grammars and grammar sections of textbooks are clausal examples, and no textual orientation is adopted; nor do examples of different text types usually appear in textbooks and grammars. As a result, it is hardly surprising that the learner adopts a working method in writing English texts whereby he works clause by clause - more or less translating each clause that comes into his mind from Finnish to English, never looking back and seeing how the textual connections to one and the same participant are signalled. Similarly, inexperienced foreign readers tend to read word for word and often find it difficult to interpret referential information when it is coded in a somewhat different manner in various text types. It has, for instance, been reported that many non-native readers cannot decode referential information effortlessly in a technical instruction list, where writers frequently shift their references from generic reference to specific reference (for details, see Trimble and Trimble, 1985). The grammar books and textbooks simply do not explain specialized textual uses of reference items.

But it is not only the non-native learners who have to cope with textbook inadequacies. Similar remarks can also be made of many textbooks which teach native speakers how to write good academic texts. Most instruction books and manuals for writing English treat articles and pronouns as separate entities - never pointing out that both can be used to realize the same textual function, although they belong to different categories grammatically. To take an example, Harrison (1985) treats articles on pages 41-43, then jumps on to particles on pages 43-44, and then from page 45 onwards discusses pronouns, without ever making a link to the previously discussed articles. In fact, her whole characterization of the functions that articles and pronouns realize in texts is extremely superficial and even dangerous to native and non-native writers, since instead of revealing the important function of articles as text participant identity markers, she considers articles as 'little words of some account'.

> You may well wonder what anyone could find to say about articles, those inconsiderable words. *The*, *a* and *an* ... are words that can round out the meaning of a sentence when used with deliberation. The function of the definite and indefinite articles is to enable the reader to distinguish between one of a general group or collection of objects and one object in particular (Harrison 1985: 41).

About the function of pronouns Harrison writes:

> To avoid repeating nouns over and over again when the reference is obvious, some words act as substitutes standing in for the nouns. We also need to refer to things without naming them or to ask about something unknown (Harrison 1985: 44).

To summarize, the kinds of explanations which have been illustrated above, and which appear in many grammars and in many instructional textbooks and manuals produced by applied linguists, are neither useful to native writers nor to non-native writers of English. Language teaching materials need a more functional and textual orientation on reference and participant identification.

8. Conclusion

This article has discussed how the choices from the reference systems realize participant relations in an English text, and how these systems keep track of participants. Thus readers are always able to interpret participant identities as non-recoverable or recoverable, either from the context or from the preceding text. The reference chains created by choices of presuming reference items enable readers to keep track of the central participants in texts.

In contrast to English writers, Finnish writers of academic English texts were shown to treat participant identification marking inconsistently. These inconsistencies can be explained as difficulties caused by the levels and the ways different participant identification is coded in English and Finnish. In English the reference choices are all made at group rank, so that all nominal groups realizing text participants will be marked for the recoverability of their identity. In Finnish the participant identification marking is partly done at the nominal group rank by pronouns, etc., but choices at the clause level must also be taken into account.

Finally, it was pointed out that linguists and applied linguists would greatly help learners if, when producing grammars and applied language teaching and learning materials, they took a different approach to the presentation of articles and their function in English. It is felt that learners would benefit from a textual orientation, where the semantic function of participant identification would be taken as a starting point; different realizations of this function could then be looked at in texts, and realizations could be contrasted between different languages. It is the task of linguists to work out the realization differences of participant identification in various languages. Both linguists and applied linguists carry the responsibility for writing grammars and writing manuals which would present a textual, not just a clausal, approach to reference and also to such items as articles, etc. which realize the reference choices.

Notes

1. The analyzed articles are:

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Dr. Ventola has completed degrees in foreign language teaching and linguistics in Finland and Australia. She has published extensively on discourse analysis, textlinguistics, and the linguistics of language teaching. Her major work has been published under the title of *The Structure of Social Interaction* (1987, Pinter); this is a study of service encounters as a particular type of genre, and it extends further the Hallidayan functional theory of language as social interaction. Her present interests also include the study of written discourse and literary discourse. She presently teaches at the University of Helsinki.

Reference in academic rhetoric. A contrastive study of Finnish and English writing.

ANNA MAURANEN

Abstract

Academic rhetoric is manifested at all levels of language and its aim is to increase the credibility of the writer's message in the reader's mind. However, cultural variation in rhetorical values and conventions may undermine the writer's efforts to impress the reader. The use of reference in scientific texts by Finnish and native English writers was studied as a reflection of underlying rhetorical strategies. Both similarities and differences between the two groups of writers were found in the use of certain reference items as well as in making reference to central referents in the text. Writers with different cultural backgrounds thus produced different rhetorical effects through their use of reference and exhibited different rhetorical strategies.

1. Introduction

Reference is a widely used concept in several disciplines, with different definitions even within the field of linguistics. In this study, a referent is defined as that which can be talked about, and referring means pointing to such entities through language. If we limit the scope of reference to its operation in text, there are two basic ways of looking at it: either starting from the class of items in a language that are used specifically for pointing outside themselves, thereby creating cohesion in text (Halliday and Hasan, 1976), or starting from the entities to which reference is made throughout a text and which form chains in the text (e.g. Källgren, 1979).

It is well known that foreign students have difficulties with some elements of the English reference system, such as article use. However, explanations and remedies of these difficulties have not lead to great successes. One reason for this failure may be the study of article usage in isolation from its wider textual contexts. The contextualized study of non-native speakers' article use as part of the English reference system is only beginning to be applied to Finnish writers (cf. Ventola and Mauranen, 1990, Ventola, in this volume). In addition to this, other aspects of how native and non-native speakers employ reference need to be explored. In particular, it will be of interest to see whether reference is used differently by speakers of different mother tongues and cultural backgrounds even when no overt grammatical errors can be pointed out, and if this is the case, what consequences it has for the rhetorical effects of texts. Moreover, patterns of reference use can in their turn throw light on more general underlying rhetorical strategies that are used by writers from different cultures.

This paper will not address itself primarily to the apparent difficulties that non-native, in this case Finnish writers have in employing the system of reference, but rather focus attention on the different rhetorical choices or preferences that Finns have as compared to native speakers of English. The paper is part of a larger study investigating the textual differences in academic journal articles written by Finnish writers and native speakers of English (see Mauranen, 1990; Ventola and Mauranen, 1990; forthcoming).

Differences in the use of reference in texts by Finnish and English-speaking writers will be discussed in terms of the employment of some reference items as well as in the use of repeated references to key entities in text. It will be suggested that some of the differences reflect different textual strategies that are characteristic of the writer's native culture.

2. Reference and rhetoric

The main focus of this paper is on rhetoric, and how it operates through reference. Rhetoric is taken to consist of all the choices that the writers of academic papers make in their writing in order to produce an effect on their readership. Rhetoric in this sense can be seen as perlocutionary action (cf. Austin, 1962; Mason, 1989), which manifests itself through all levels of writing, and at all levels of language.

Although the particular rhetorical effects that individual writers seek to achieve by their choices in writing are not accessible to the text analyst, a more general assumption can be used to provide a background for the analysis of texts: the overall rhetorical effect that academic papers are trying to achieve is that of high credibility. Most academic articles are trying to convince their readers of the factual status of the results presented, or then to persuade readers of the validity of the argument put forth, or, in many cases, both of these things. This can be assumed to constitute a goal that is common to academic papers in general, deriving from the nature of communication in the academic discourse community. It is also worth noting in this context that most scientific writing is not primarily concerned with producing the impression of a good text, but the impression of a good study.

Specific rhetorical features of texts can also be postulated as originating in the common goal of the discourse community. Such features are essentially genre-typical in that they reflect the requirements made on the discourse by the genre of academic research paper writing. Obviously, such features are important in academic writing, and this has lead some scholars to assume that these common forms constitute the essence of academic writing across cultures and languages (e.g. Widdowson, 1979). However, there is also ample evidence that all writing is strongly anchored in the values of the writing cultures that people get socialized into as they learn to write (for example, Kaplan, 1988). It can therefore be assumed that two sets of values are simultaneously at work in the writing of a scientific report: those common to the academic community and those held in esteem in the writer's national culture. Both sets of values can be expected to leave their traces on texts.

What light can we then hope to throw on academic rhetoric by studying reference? Two things, at least: reference can be used to test hypotheses derived from other approaches to the text, and it can be studied in its own right, to see whether it offers any insights into the ways in which effects are created.

Reference as a textual phenomenon can be approached in at least two ways. Firstly, the model developed by Halliday and Hasan (1976) starts from a set of reference items, and studies their operation in text, mainly their cohesive properties. This approach limits reference to a closed class of items. Secondly, reference can be seen in terms of tracking referents, or participants (see Martin, 1983) in a text. This notion is similar to that of reference chains, where in addition to the reference items recognized by Halliday and Hasan, lexical means of referring are also included in the formation of chains (see for example Källgren, 1979). Since these two approaches give different perspectives on texts, they will be looked at in turn to see what each can disclose about academic rhetoric.

In the following, two hypotheses relating reference and academic rhetoric are discussed. The first deals with genre-typical vs. culture-typical uses of reference and can perhaps be best studied in the light of referential items, the second is concerned with culture-typical use by Finnish writers, and lends itself to investigation through tracking key referents, or seeing how reference chains operate in texts.

Hypothesis 1: Some reference features in text are genre-typical in academic journal articles and do not show cultural variation. These features are of a kind that are required by the demands of the written academic genre, and include such features as frequent use of endophoric, homophoric, esphoric and inferential references. In addition to these, other features of reference can be found which exhibit variation with respect to cultural preferences.

Hypothesis 2: Finns prefer different patterns of textual organization from English-speaking writers: they place more emphasis on the ends of sections. Therefore Finnish writers are expected to introduce new and important referents later in a text section than do native speakers of English.

Texts from three sources were compared in this study: (1) texts written by Finnish scientists in English, (2) texts written by scientists who are native speakers of English, and (3) texts written by Finnish scientists in Finnish. The texts were all medical papers. The L1 texts had been published in medical journals, and the L2 texts were intended for publication, but had been sent for advance language revision to native speakers of English. The different comparisons were based on different sets of papers, and examples will be drawn from just a few of them, but the detailed study involved 14 articles in all.

2. Reference items

Halliday and Hasan define reference items as those items in a language which "instead of being interpreted semantically in their own right, ... make reference to something else for their interpretation" (Halliday and Hasan 1976: 31). The definition is thus based on the function of these items in the system of language. In English these items are personals (*I, you, it,...*), demonstratives (*this, that, the,...*) and comparatives (*better, bigger, further,...*).They form a closed set, even though the subsets include varying grammatical classes. The textual role of these items as Halliday and Hasan see it is to create cohesion. In this section, the occurrence of some members of this item class will be looked at in the writing of Finns in English as compared with similar writing by native speakers of English.

2.1. *Similarities across papers*

It was hypothesized above (Hypothesis 1) that the academic genre possesses some characteristics that hold across writing cultures and that would be reflected in references as used in such texts. These features include frequent use of endophoric, homophoric, esphoric and inferential references.

Since academic papers are produced and interpreted in circumstances where writers and readers rarely share the same non-verbal environment (i.e. the texts are very context-independent), endophoric references (those made within the text) can be expected to dominate over exophoric references (those pointing outside the text). This was generally found to be the case in both L1 and L2 texts. However, a commonly occurring reference that can be taken to be exophoric is to the paper itself:

(1)
The purpose of *this paper*...
The aim of *the present study*..
My goal *here*...

Academic papers are produced in highly restricted subcultural environments, and therefore another type of exophoric reference can be expected to be common, namely homophoric reference. Homophoric references are those which are made to referents identifiable on extralinguistic grounds, but independent of the specific situation (Halliday and Hasan, 1976: 71). In addition to things identifiable to anyone by virtue of being unique, such as *the sun,* referents can be identifiable by being otherwise known to members of the culture or subculture, such as *the vice-chancellor*. For instance:

(2)

the mother, the fetus (Text 3)
the bleeding tendency caused by aspirin (Text 9)
the newborn (Text 9)

The use homophoric references thus makes sense in a context where they are understood: it offers the writer a shortcut for making references assumed to present no problems of comprehension to the reader. It may also combine with nominalizations to strengthen the factual status of an assumption in the field, as in *the bleeding tendency caused by aspirin* above, which presents it as a fact known to all readers that aspirin tends to cause bleeding. Such references also offer gains in condensation of information into single sentence constituents, which can be flexibly manipulated in sentence structures. Furthermore, homophoric references may also play a role in signalling and marking group membership: only insiders understand it, and outsiders will be kept at bay by its frequent use.

For reasons similar to those offered for the use of homophoric references, it might be expected that research papers make frequent use of inferential references, that is, references which require the reader to infer the relationship between referents on the basis of shared knowledge or assumptions with the writer. Some inferences that the references require cannot be made successfully by a reader outside the field. Consider the following example:

(3)

> (5) The biochemical disturbance of pre-eclampsia is thought to be the shift of the balance between antiaggregatory, vasodilatory prostacyclin (PGI2) and its endogenous antagonist, thromboxane A2 (TxA2) to the dominance of the latter. (6)This imbalance may result both from the decrease of PGI2-synthesis (...) and from the increase of TxA2-production (...) in the fetoplacental compartment. (7) *Further support* for this view comes from that low doses (60-160 mg/day) of acetylsalicylic acid (ASA) improve the pregnancy outcome in patients with previous history of IUGR, pregnancy-induced hypertension, systemic lupus erythematosus and placental insufficiency (...). (Text 3)

The relationship between ASA and the diseases mentioned is not accessible to the laity. The same applies to the relationship between ASA and the imbalance mentioned in (5) and (6). Thus the reference to *further support* in sentence (7) is not meaningful to a reader without prior knowledge about the biochemistry of ASA. The necessary piece of information for bridging the gap between the senses of (5) and (6) and that of (7) is in fact provided very much later in the text, at the beginning of the Discussion section:

(4)

> The biochemical basis of the treatment of pre-eclampsia and other pregnancy-associated hypertensive diseases with ASA (...) is that low doses of it are supposed to inhibit TxA2, but not PGI2-synthesis (...).

By placing the information so late, the writer seems to assume that it is already known to readers. In other words, he does not present it as new, but rather reminds the reader of some shared knowledge.

Since it is commonly held that academic discourse aims at explicitness, it was assumed that a good number of the demonstrative non-selective references (i.e. the definite articles) would be of the esphoric type, in other words the identity of the referent would be recoverable within the nominal group (cf. Ventola, 1987: 148). Several instances of this were found in all the papers. For example,

(5)

> ...***the capacity** of this vessel to synthesize PG12* is unimpaired by... (Text 9)
> ***The mechanism** of differential inhibition of maternal platelets by aspirin* is of considerable interest. (Text 9)
> ...***the safety** of this dose of aspirin as regards neonatal haemostasis* is probably only relative. (Text 9)
> ...***the physiochemical methods** that we used.* are highly sensitive... (Text 5)

Explicitness of reference in these texts is also manifested in the relatively infrequent usage of pronominal reference: full forms are usually preferred.This is interesting in the light of Halliday's (1985:291) view that the fundamental motivation for reference is that elements requiring the listener or reader to store and retrieve what has gone before have the effect of providing a source of coherence. Using the full form constantly would in his view not require the reader to retrieve the referent from elsewhere, therefore he /she would begin to wonder whether we are still talking about the same referent. Since academic papers contain so infrequent pronominal references, it might be concluded that they sacrifice cohesion for explicitness. However, since they probably have similar requirements to be cohesive as any other texts, they may use other means to compensate for the lack of pronouns. This question will be returned to below in the next section.

2.2. *Differences between native and non-native writers*

In addition to the similarities hypothesized and found in the use of references by both Finnish and English-speaking writers, Hypothesis 1 further predicts that there will be differences between English- and Finnish-speaking writers. This latter assumption must remain an undirectional hypothesis, since at this exploratory stage of research no obvious basis offers itself for making specific predictions about the possible differences. Difficulties in article usage can be predicted for Finns on the basis of language system differences, but the analysis at hand is not concerned with overt errors so much as finding differences. Therefore, an inductive approach was adopted: looking at the category of reference items, are there any obvious differences between the texts?

Even given the relatively small number of texts examined, differences between the two groups did seem to emerge. The most striking difference was found between the L1 and L2 writers' use and distribution of selective (*this, that, these, those*) vs. non-selective (*the*) demonstrative reference. The Finnish writers employed this reference type clearly less than English writers did.

It seems that the variable frequency of employing selective demonstrative references is not without rhetorical consequences. First, the relatively frequent use of *this* probably gives a sense of the writer tightly following the same argument, as well as making explicit to the reader which particular referential connection is being made. Thus it may compensate for the relative lack of anaphoric pronouns which was established above as a typical feature of academic papers. The constant use of *the* with full nominal groups probably does create uncertainty in the reader in the way Halliday was suggesting. The selective demonstrative references frequently occur with nouns, as in *this vessel, this dose of aspirin* and may thus provide a compromise between the explicitness of the full nominal group, and the identificational properties of anaphoric pronouns.

Another rhetorical effect that *this* produces is an impression of closeness or solidarity between reader and writer. It has the effect of bringing the reader round to the writer's orientation, or point of view, by implying that the writer as well as the reader are both "here", on the same side, looking at things from the same perspective.

These uses of *this* then appear to lend credibility to text, which was postulated as a major goal for academic rhetoric. If this is the case, Finns seem to be at a disadvantage, at least in the English-speaking world, if they do not utilize such devices to the full.

In sum, the use of reference items in the texts investigated seems to confirm the hypothesis that a number of genre-typical usages can be found in all writers' texts, while culture-typical features also emerged. Finnish writers appeared to utilize the possibilities of selective demonstrative reference less than their English-speaking colleagues.

3. Referents as participants

In addition to the use of reference items discussed above, referents can be tracked through texts by identifying them every time they are mentioned. This approach makes no such strongly restrictive assumptions about the forms that the references should take as the reference item approach does. Instead, it has to assume some notional unity between referents counted as instances of the same, or more precisely, between the mental representations evoked by the references. References made to such recurrent, or central, referents in the text can be construed as tracking participants in the text. The concept of participant tracking is borrowed from Jim Martin's (1983) work. Martin's view of reference has a grammatical basis, in that it is seen as being realized in nominal groups within the sentence structure in a similar fashion that verbs realize processes. However, his concept of participants contains a strong notional aspect as well, as can be seen from the following definition of participant identification: "the strategies languages use to get people, places and things into a text and refer to them once they are there." (Martin, 1983:59)

This definition bears resemblance to reference chains (see e.g. Källgren, 1979), which, again, resemble Hasan's (1980, 1984) cohesive chains as well as Hoey's (forthcoming) system of lexical repetition, thus extending the construct towards lexical cohesion. Lexical cohesion is kept separate from reference by Halliday and Hasan (1976), although they admit that together these form a continuum of cohesive elements. They seem to want to maintain a clear distinction between grammar and lexis, which motivates keeping lexical and referential cohesion apart. The maintenance of such a distinction is not important for the concerns of this study, and therefore lexical reference was included in the analysis at this stage. A participant view of reference is, then, extended to notional participants, whose grammatical and lexical status may vary throughout the text.

A distinction is here made between central and peripheral referents: central referents are considered to be those that occupy an important position in the propositional representation of the text and usually appear frequently in the text, often spread throughout the entire article, with the most central, the 'key' referents commonly incorporated in the title. Peripheral referents are less importantly represented in the propositions of the text and they tend to occur less regularly. The referents were tracked by noting the key referents of the text and seeing how reference was made to them. The key referents were taken to be those central referents that were denoted by the main lexical items in the title of the paper. It was assumed that the writers intended to include the main elements in the title, since the 'key words' indicated by some authors for computer filing overlapped almost completely with those appearing in the titles.

References were tracked by a simplified modification of Källgren's (1979) reference chain system, by counting instances of

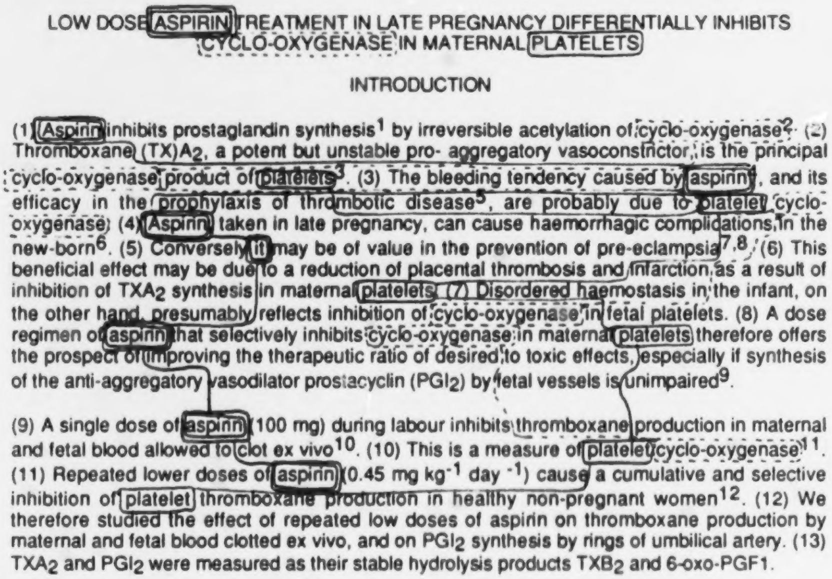
1.**identity**, including coreferentiality and changes of word class, e.g. *aspirin - it, fetus - fetal*
2.**synonymy**, including instantial synonymy, e.g. *thromboxane production - thromboxane biosynthesis*
3.**contrast** , including antonymy, e.g. *risk - safety*

More complex referential ties that Källgren also explores were left out of this count, such as relations involving specification (part-whole relations), hyponymy and inferential references. Reference ties were taken to hold between any elements in complex nominal groups, not solely the heads of the groups. It was frequently the case in these texts that important semantic ties were formed between elements of a different status in nominal groups, for instance *cyclo-oxygenase - irreversible acetylataion of cyclo-oxygenase - platelet cyclo-ogygenase - the principal cyclo-oxygenase product of platelets.*

The chains were then used to test the assumption made in Hypothesis 2 above: Finns place more emphasis than English writers on the ends of text sections. Therefore Finnish writers are expected to introduce new and important referents later in a text section than native speakers of English.

It seems from earlier work on articles written by Finnish writers (Mauranen, 1990) that Finns often start their texts from rather far away from the main topic of discussion and develop towards it gradually. They thus create a distance between the beginning and the main topic of the text. They also tend to keep their main point until the end, which sometimes has the consequence that the main clue to the interpretation of a section only comes at the end of it. The typical (notional) paragraph in a Finn's text would then tend to have the important content elements towards the end, whereas English-speaking writers are probably more likely to place important elements early in the text. This English preference is frequently expressed in writers' guidebooks, and particularly American writing manuals advise writers to use a 'topic sentence' to start every paragraph. If these assumptions are correct, they ought to manifest themselves in different reference patterns, insofar as central referents reflect the development of content in texts. As an illustration of the patterns found in the L1 and L2 English texts, the introductory sections of two medical texts (Text 9 and Text 3) are compared below. The key elements of the titles are followed through the introductions, and indicated with different lines.

(6) Text 9 (L1 ENG)



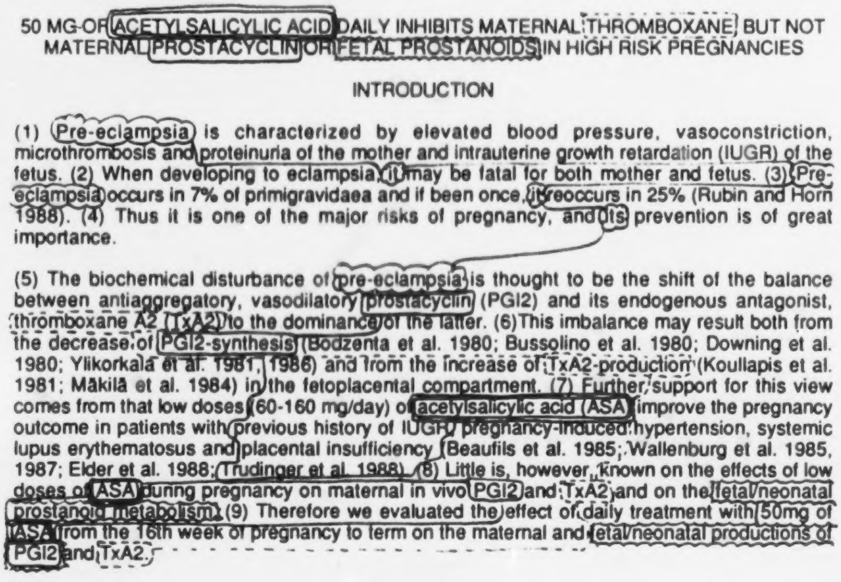
LOW DOSE ASPIRIN TREATMENT IN LATE PREGNANCY DIFFERENTIALLY INHIBITS CYCLO-OXYGENASE IN MATERNAL PLATELETS

INTRODUCTION

(1) Aspirin inhibits prostaglandin synthesis[1] by irreversible acetylation of cyclo-oxygenase[2]. (2) Thromboxane (TX)A_2, a potent but unstable pro- aggregatory vasoconstrictor, is the principal cyclo-oxygenase product of platelets[3]. (3) The bleeding tendency caused by aspirin[4], and its efficacy in the prophylaxis of thrombotic disease[5], are probably due to platelet cyclo-oxygenase. (4) Aspirin taken in late pregnancy, can cause haemorrhagic complications in the new-born[6]. (5) Conversely it may be of value in the prevention of pre-eclampsia[7,8]. (6) This beneficial effect may be due to a reduction of placental thrombosis and infarction as a result of inhibition of TXA_2 synthesis in maternal platelets. (7) Disordered haemostasis in the infant, on the other hand, presumably reflects inhibition of cyclo-oxygenase in fetal platelets. (8) A dose regimen of aspirin that selectively inhibits cyclo-oxygenase in maternal platelets therefore offers the prospect of improving the therapeutic ratio of desired to toxic effects, especially if synthesis of the anti-aggregatory vasodilator prostacyclin (PGI_2) by fetal vessels is unimpaired[9].

(9) A single dose of aspirin (100 mg) during labour inhibits thromboxane production in maternal and fetal blood allowed to clot ex vivo[10]. (10) This is a measure of platelet cyclo-oxygenase[11]. (11) Repeated lower doses of aspirin (0.45 mg kg^{-1} day $^{-1}$) cause a cumulative and selective inhibition of platelet thromboxane production in healthy non-pregnant women[12]. (12) We therefore studied the effect of repeated low doses of aspirin on thromboxane production by maternal and fetal blood clotted ex vivo, and on PGI_2 synthesis by rings of umbilical artery. (13) TXA_2 and PGI_2 were measured as their stable hydrolysis products TXB_2 and 6-oxo-PGF1.

(7) Text 3 (L2 ENG) (only typing errors corrected)



50 MG OF ACETYLSALICYLIC ACID DAILY INHIBITS MATERNAL THROMBOXANE BUT NOT MATERNAL PROSTACYCLIN OR FETAL PROSTANOIDS IN HIGH RISK PREGNANCIES

INTRODUCTION

(1) Pre-eclampsia is characterized by elevated blood pressure, vasoconstriction, microthrombosis and proteinuria of the mother and intrauterine growth retardation (IUGR) of the fetus. (2) When developing to eclampsia, it may be fatal for both mother and fetus. (3) Pre-eclampsia occurs in 7% of primigravidaea and if been once, it reoccurs in 25% (Rubin and Horn 1988). (4) Thus it is one of the major risks of pregnancy, and its prevention is of great importance.

(5) The biochemical disturbance of pre-eclampsia is thought to be the shift of the balance between antiaggregatory, vasodilatory prostacyclin (PGI2) and its endogenous antagonist, thromboxane A2 (TxA2) to the dominance of the latter. (6)This imbalance may result both from the decrease of PGI2-synthesis (Bodzenta et al. 1980; Bussolino et al. 1980; Downing et al. 1980; Ylikorkala et al. 1981, 1986) and from the increase of TxA2-production (Koullapis et al. 1981; Mäkilä et al. 1984) in the fetoplacental compartment. (7) Further support for this view comes from that low doses (60-160 mg/day) of acetylsalicylic acid (ASA) improve the pregnancy outcome in patients with previous history of IUGR, pregnancy-induced hypertension, systemic lupus erythematosus and placental insufficiency (Beaufils et al. 1985; Wallenburg et al. 1985, 1987; Elder et al. 1988; Trudinger et al. 1988). (8) Little is, however, known on the effects of low doses of ASA during pregnancy on maternal in vivo PGI2 and TxA2 and on the fetal/neonatal prostanoid metabolism. (9) Therefore we evaluated the effect of daily treatment with 50mg of ASA from the 16th week of pregnancy to term on the maternal and fetal/neonatal productions of PGI2 and TxA2.

A clear difference can be seen in handling participants in these two texts: the L1 text introduces all the central participants (*aspirin, platelets,* and *cyclo-oxygenase*) in the first two sentences, and continues to refer to them throughout the two paragraphs. The L2 text, on the other hand, starts out by making frequent reference to a participant (*pre-eclampsia*) which is neither mentioned in the title nor central to the text as a whole. The central participants are only introduced in the second paragraph. The participant acting as a starter, as it were, reappears in the text only at the beginning of the Discussion section, again in a similar role.

(8)

> The biochemical basis of the treatment of *pre-eclampsia* and other pregnancy-associated hypertensive diseases with ASA (...) is that low doses of it are supposed to inhibit TxA2, but not PGI2-synthesis (...). Although large scale clinical trials on the prevention of *pre-eclampsia* with ASA are going on (...), this work is the first systematic study on the effect of low doses of ASA during pregnancy on the feto-maternal PG-metabolism.

The information on pre-eclampsia given in the first sentence above is not presented as new to the reader, as was pointed out earlier, since it is in fact presupposed in a successful interpretation of sentence (7) in the Introduction. It seems, rather, again to serve as a starter before the text focuses on the central referents. At the same time, it appears to have the rhetorical function of providing a basis for the argument developed in the text, by linking the research to the curing of a disease, which, presumably, is a desirable goal in the medical profession. A reference to the common goal of curing the disease is made once more in the text, again not providing the reader with new information, but reminding him/her of it as part of the argument. The third and last reference to pre-eclampsia occurs in the beginning of the third paragraph of Discussion:

(9)

> The inhibition of PGI2-production would be an undesired effect in attempt to prevent *pre-eclampsia* with ASA.

If a reader were to start reading text 3 in a linear fashion, it would be natural to assume for quite some time that the text is essentially about pre-eclampsia. After reading the whole text, most readers would probably agree that it is really about aspirin and prostanoids, like Text 5, the comparable native speaker text. This topic is, of course, also indicated by the title. However, it was typical of the Finnish texts studied to start entire texts and their individual sections with starter participants, which are peripheral to the text as a whole, before moving on to the central participants. Often superordinate terms or background variables would serve as such starter referents.

The tendency to focus in on the important topic of discussion is not unknown in English: a funnel strategy leading from general to more specific issues was found to be typical of thesis introductions by Dudley-Evans (1986). However, his study did not show whether the strategy was in fact realized through linguistic categories in any systematic fashion. In any case, the tendency seemed much more pronounced in the articles written by Finns, since the strategy was not limited to movement from general to particular, but included various other ways as well of approaching the main topics of the text from a distance created at the beginning. In addition, Finnish writers resorted to this strategy in other text sections besides the introduction, such as the beginnings of new sections.

4. Conclusions

This study found both similarities and differences in the patterns of reference use in the texts of Finnish-speaking and English-speaking writers. The observed similarities, such as the frequent use of endophoric, homophoric, esphoric and inferential references, appeared to accord with the functional requirements usually made on academic papers in general. The differences, again, are probably attributable to different cultural values of writing. The resulting differences in rhetorical effects thus probably reflect different rhetorical preferences of Finnish and English-speaking writers.

One set of differences between the Finnish and English writers was observed in the use of reference items in text: Finnish writers employed fewer selective demonstrative references through the item *this* than native speakers of English did. The resulting rhetorical effect appears less persuasive than one rendered by a more frequent use of *this*, insofar as the use of *this* invites solidarity from reader to writer, presenting them as being on the same side, as if looking at things from the same perspective.

These differences in the use of reference items are then likely to reduce the persuasiveness of Finnish papers in an English-speaking reader's eyes. Such subtle influences are not likely to be consciously noticed by readers, and therefore they may not be easily forgiven or overlooked as foreigners' errors.

Differences were also found in texts written by Finns and native speakers of English from the perspective of participant tracking. A typical difference in the rhetorical preferences of Finnish and native English writers appears to be that Finns tend to start texts and passages from a distance, only gradually approaching the key points of the text. This could be called an end-weight strategy. In the use of references, this is reflected in the relatively late introduction of the central referents in texts written by Finns in comparison to texts written by native speakers of English. The excessive use of this rhetorical strategy may create an effect of vagueness or indirectness in a reader expecting to know sooner what the key elements are in the text.

It seems, then, on the basis of this study, that reference can fruitfully be used for studying text organization and rhetorical effects. Applied to these data, reference use revealed typical features of academic texts in general, some specific problems of foreign writers, as well as interesting cultural differences. Nevertheless, the results concerning features that were considered to be common across cultures need support from data from other cultural backgrounds. It would also be worth investigating whether the specific differences between Finnish and English writers would be supported by data from different genres and possibly also from the oral mode of language use.

The choice of subjects in this study also offers interesting possibilities for future comparison with the majority of writing research, which is carried out on subjects learning to write academic texts. How do mature non-native writers (such as those studied here) compare to apprentice writers who are native speakers of English? Another, particularly interesting aspect of academic rhetoric directly related to reference is the rhetoric of zero article: i.e. the question of generic vs. specific reference usage in academic papers. The overall pattern in a complete paper appears to develop from general references to specific, and back to general. This is a property of academic rhetoric that an apprentice writer must learn to master, whatever the native language.

For a more comprehensive insight into the strategies used by writers to create rhetorical effects appropriate to the purposes of academic papers, reference must be looked at in conjunction with other textual systems. It can be employed to provide evidence for hypotheses generated by analyses with other systems, such as thematic patterning, or text organization, and, conversely, it can be used to generate hypotheses that can be supported or rejected with evidence from other textual systems. It would also be of interest to see whether more data from different disciplines could uncover varying preferences or rhetorical strategies in different discipline areas.

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Some aspects of the pragmatic organization of academic discourse

EIJA SUOMELA-SALMI

Abstract

This paper deals with the pragmatic organization of academic discourse in French and Finnish. The underlying hypothesis is that in Finnish academic discourse textual structure is less explicitly marked than in French academic discourse. The following textual organizers with a pragmatic value will be discussed: 1) the 'M.I.L.' - 'marqueurs d'intégration linéaire', i.e. markers of linear integration in discourse, 2) the paragraph as a textual organizer even if it is frequently treated as a mere typographic device . The aim of the paper is not to present exact quantitative data but to discuss the functions of these textual organizers in the light of Finnish and French examples.

1. Introduction

This paper discusses some aspects of signalling structure by means of textual organizers in Finnish and French academic discourse. Expository/argumentative texts composed in French as L2 by Finnish students seem to contain too few textual organizers, if any, and professional French translators tend to add markers signalling the textual organization of the text in their translations of Finnish texts (cf. Suomela-Salmi 1987). This led me to suppose that there exist culture-bound differences/conventions for marking textual organization by explicit or implicit linguistic means. To find out if this assumption was justified, I turned to Finnish and French academic discourse, in this case in the field of linguistics. My observations are based on a corpus consisting of 15 French and 15 Finnish articles and 15 French summaries of Finnish master's degree theses dealing with language and translation. (Translations of the Finnish examples are given in the Appendix.)

2. Textual organizers

Schneuwly et al. (1989: 40) consider textual organizers as traces of linguistic operations which result from textual planning; not only is the notion of connectedness taken into account,as the term connector suggests, but also the segmentation of the text at various levels. Consequently, in addition to connectors, various temporal and argumentative expressions are included under the notion of textual organizers. The textual organizers are particularly sensitive to the content of the text and the situational factors of text production. Schneuwly et al. (1989: 43) further define textual organizers as having the following characteristics:

1) they are not an integral part of propositional structures, 2) they join propositional structures together or organize them in a linear sequence, 3) they do not follow the rules of grammatical congruence as do some cohesive units.

2.1. *The M.I.L. i. e. linguistic elements marking the linear sequentiality of discourse*

As Turco and Coltier (1988: 58) point out, language does not have specific morphemes to mark linear sequentiality, but to mark this type of textual organization it has to borrow from other subsystems such as:

1) **énumeration** ('*premièrement*',' *deuxièmement*'...)

> (1)....cette discipline ne connaît pas de cadre théorique stable. Et cela, pour *deux* raisons:
> *1*) la multitude des genres discursifs étudiés
> *2*) la diversité des procédures d'analyse

In this example the enumeration is in fact marked twice; first, by typographic means and secondly, by the use of numerals instead of ***premièrement, deuxièmement***. The marking of the enumeration is all the stronger since the preceding proposition already contains the numeral *deux*. This kind of marking can also be realized by means of alphabetical listing or by using alineas. The difference between *premièrement*.. *deuxièmement* and the other devices used is that only *premièrement*.... *deuxièmement*... seems to create an explicit hierarchic order among the constituents.

The Finnish texts of my corpus frequently rely solely on single marking, i.e. typographic means and the linearity of the text, especially within a short text segment.

> (2) Erityistä kiinnostusta adaptaatio-teoriassa herättävät kuitenkin sen implikaatiot. Mainitsen näistä vain *kaksi*: variabiliteetti ja kontekstuaalinen vaikutus.

Within longer segments, for example in cases where the enumerated facts or arguments appear in separate paragraphs, the first one can remain unmarked whereas the additional items of the list are explicitly marked in order to ensure the sequential interpretation, which is more difficult because of the distance between the enumerated facts.

> (3) Verschurenin mukaan on olemassa makro-ja mikroadaptaatiota. Esimerkiksi kielen mukautuminen on adaptaation kannalta makroilmiö....Esimerkkinä mikro-tason mukautumisesta *taas* voidaan mainita puhutteluterminologia........................

Toinen tärkeä kohta on mukautumisen kaksisuuntaisuus.

2) **Spatial organization** (*'d'un côté ....de l'autre côté', 'd'une part... d'autre part'...*)

> (4) De fait l'énonciation touche à un point qui, pour le linguiste, demeure critique, celui des relations en son sein entre syntaxe *d'une part*, semantique et interprétation *de l'autre*.

According to Turco and Coltier (1988:63), the function of *'d'une part... d'autre part'* is to mark the frontiers of those constituents which are to be integrated in the same package - 'la fonction d'empaquetage', as it is called. The use of the 'M.I.L.' (*marqueurs d'intégration linéaire*, 'markers of linear integration in discourse') does not, however, mean that the semantic units - 'paquets' - delimited in this way would not be recognizable to the reader without this explicit marking. In most cases *'d'une part... d'autre part'* could be omitted without radically affecting the intelligibility of the discourse. This claim can be substantiated by the two versions of the following example:

> (5) Si l'on admet avec Tom que l'explication d'un ordre de phénomènes peut prendre *deux* formes, *d'une part* l'approche réductionniste, *d'autre part* l'approche structurale,.....
>
> (5') Si l'on admet avec Tom que l'explication d'un ordre de phénomènes peut prendre deux formes,l'approche réductionniste *et* l'approche structurale..

However, the junction by means of the additive connector *'et'* is weaker, since it does not explicitly express the dichotomic relation involved in (5).

The units marked by *'d'une part...'d'autre part'*, *'d'un côté...de l'autre côté'* and their Finnish equivalent 'toisaalta...toisaalta' can be of considerable length. These textual organizers frequently act intersententially but they can also reach across the paragraph boundary. In cases where these organizers act between units longer than a sentence, the dichotomic relation discussed above is weakened. Instead an adversative-additive relation is created.

> (6) Se onko kombinointi puhtaasti kompositionaalinen vai voiko se jotenkin muuttaa osista saatavaa tulosta, on tällä hetkellä yksi CG tutkimuksen ongelmallisista kysymyksistä....
>
> *Toisaalta* CG on ainoa kielioppimalleista, joilla on itsessään, puhtasti teoreettisena konstruktiona, yhteys semantiikkaan. Lisäksi sen mukainen lauseanalyysi.....

Example (6) illustrates the reliance of the Finnish discourse on linear organization as far as the first argument in a unit is concerned. The second has to be explicitly marked, especially in cases where the first argument is developed at some length. The distance between the points makes marking necessary so that the reader can still interpret them as belonging to the same sequence.

3) **Temporal organization** (*'d'abord'*, *'puis'*, *'ensuite'*...)

> (7) Cette conception du discours soulève un certain nombre d'objections. ***Tout d'abord***, l'existence de fonctions canoniques, hierarchisables,fournit une typologie restrictive des messages négligeant leurs circonstances de production... ***Une autre*** critique adressée à R.Jakobson concerne le statut des fonctions du langage et des pôles de la communication...***Enfin***, l'ethnographie de la communication a montré que ces fonctions ne sont pas universelles, mais qu'elles varient selon la situation de communication.

The function of the series *'d'abord'*, *'puis'*,*'ensuite'*....*'enfin'* seems to be twofold. First, they seem to indicate the preferred order of decoding the discourse. This is the function of 'balisage', i.e. marking the route for the receptor. Secondly, the presence of this series could be interpreted as a trace of the textualisation process performed by the writer as suggested by Adam and Revaz (1989: 72), a view very much in line with the psycholinguistic model of text production proposed by Schneuwly and Bronckart (1986: 279-281). Example (7) also illustrates the fact that not all elements in the series marked by this 'temporal chain' have to be explicitly marked. In this case the initial and final elements are explicitly marked by *'tout d'abord* and *'enfin'* respectively, whereas the medial component is less clearly signalled to the reader by *'une autre'*, a kind of additive device. According to Adam et Revaz (1989:71), however, in French it is customary to mark at least the final element in a series, and this is most often realized by *'enfin'* or *'et enfin'*. This observation is valid for Finnish discourse as well. Even if the beginning and the middle of a series of arguments or reasons are not explicitly marked, the final element is frequently marked by *'lopuksi'*, *'viimeksi'*, *'vihdoin'* (*'finally'*, *'lastly'*...).

The temporal organizing of dicourse can also be carried out in an inverted order, as shown by the following example:

> (8) ***Ennen kuin*** esittelen lähemmin DRT:ä..., tarkastelen NP:itten uudenlaista tulkintaa.... (***Before*** presenting the DRT in more detail, I shall discuss a new kind of interpretation of NP's.)
>
> (8') Tarkastelen (ensin) NP:itten uudenlaista tulkintaa ***ennen kuin*** esittelen....
> (I shall (first) discuss a new interpretation *before* presenting the DRT in more detail...)

From the point of view of temporality in this case the inverted order is thematically motivated. The DRT is the discourse topic of this text; so far no mention of a new interpretation of NP's has occurred. To ensure topic continuity, i.e. to guarantee that a coherent interpretation is arrived at without an excessive processing load, the inverted temporal ordering of (8) is preferred to that of (8').

In a text using a different textual strategy, narration for example, or in the narrative passages of an expository or argumentative text, the 'M.I.L.' borrowed from temporal structuring can include more or less exact indications of time. These mark the textual progression by organizing the textual blocks thus created in a chronological order.

> (9) Dans le rapide tour d'horizon qui suit,on rappellera *tout d'abord* en quels termes les problèmes de cohérence et de continuité textuelles ont été abordés par les grammariens du texte *jusqu'à vers les années 1975*.....On montera *ensuite* comment, *à partir de la fin des années 1970*, un certain nombre d'exemples recalcitrants ont amené les linguistes travaillant sur le texte à envisager autrement les problèmes de cohérance,*on terminera* en essayant de dégager ce que peut être, dans ce contexte, l'apport spécifique des linguistes sur la textualité.....

In this example again a double marking is used 1) by means of the string '*tout d'abord*, *ensuite*, *on terminera*' and 2) by pure chronological indications. This example is an extract from an introduction to an article and clearly displays the two functions of the textual organizers: to function as guiding signals to the reader, thus acting cataphorically, but also as signs of the textualisation process performed by the writer.

> (10) Näkemyksen historiallisen tapahtumisen katkonaisuudesta esitti *Michel Foucault* kirjassaan 'Les mots et les choses' (1966)... *Jaques Derrida* puolestaan' radikalisoi' Foucaultin kannan:...*Jean-François Lyotard* on lainannut avainkäsitteensä eli 'kielipelin' Wittgensteinin myöhäisfilosofiasta,ja hän puolestaan 'radikalisoi' Wittgensteinin kannan.....

Example (10) is more implicit and hence more problematic, since the chronological development is realized through the proper names. Only for the first one (Foucault) is an exact temporal indication given (1966); in order to understand the temporal progression expressed by the subsequent proper names some encyclopaedic knowledge is needed. This example illustrates the claim advanced by Schneuwly and Bronckart (1986: 287-291) according to which the extralinguistic premises of discourse, the conditions of production, the aim of discourse, and the relations between text producer and receptor have an influence on the type of text to be created, and consequently on the density and the type of textual organizers used. The writer of this text assumes that his hearers/readers have the extralinguistic knowledge needed to make the inferences required. Or, according to Fayol (1986: 103), the adult author - in contrast to a child who does not yet master textual planning - has in mind his potential receptors and has created a mental image of them for himself, which in turn helps him to evaluate which relations have to be explicitly marked, and which can remain more or less implicit.

On the other hand, especially in the case of written discourse, the indications given by the 'M.I.L.' gain a contractual value, i.e. the receptor is expecting them to signal to him the conventionalized information regularly attached to these markers. If the writer does not master the use of these markers, the quality of the communication suffers. As Turco and Coltier (1988: 73) point out, an error in their manipulation may lead to the loss of the credibility of the text. This is what often happens with Finnish students writing in French as L2. To begin with, they use very few pragmatic markers, if any, i.e. they still seem to lack the ability to organize their discourse in a way which respects the conventions of the target language. In the next phase, they use these markers but in an inappropriate way (Lindgren, personal communication 1990), which is bound to disorientate or to annoy the native reader; hence he finds it difficult to accept the L2 texts as coherent discourse.

> (11) Mais en ce qui concerne le langage parlé dans un contexte littéraire, il n'est cependant jamais question d'une simple imitation de la langue parlée réelle......Il ne s'agit donc pas d'une reproduction mais d'une transposition de la langue parlée à l'écrit, d'une impression ou d'une illusion de l'oralité.
>
> *De là*, on continue à l'examen détaillé du 'Voyage au bout de la nuit'. L'analyse de l'ouvrage par comparaison aux caractéristiques de la langue parlée en général......

Example (11) is from the French summary of a master's thesis dealing with problems in translating the language of Celine into Finnish. The writer already masters the manipulation of counterargumentative connectors ('*mais*','*cependant*') and consecutive connectors ('*donc*') (cf.Roulet et al. 1985). The connective '*de là*', however, is used instead of the M.I.L. category to indicate the structure and chronological organization of the thesis. This connective does not work as a temporal textual organizer in French, nor does it reach across the paragraph boundary.

2.2. *The paragraph as a textual organizer*

As Wikberg (1988) and likewise Bessonat (1988) point out, the paragraph has no real, acknowledged status within linguistic research, not even in text linguistics. This is probably due to the fact that the paragraph is considered simply as a typographic means, or, at best, the surface manifestation of more profound linguistic phenomena. A radically different attitude is taken by Hoffmann (1989: 243-244) according to whom the paragraph is a pragmatic signal for the reader to clear his mental blackboard or at least a signal for him to make a pause in order to think about what has to be conserved (the macropropositions?) and what can be wiped out. Furthermore, the introduction of a new paragraph tells the reader that supplementary or new information is to follow. According to Hoffmann (1989: 241), a proof of this argument is the fact that paragraph breaks function as barriers to anaphora, i.e. that a pronoun or other anaphoric element cannot in general be used at the beginning of a new paragraph, if its nearest antecedent is embedded in the preceding paragraph. However, there are cases where an anaphoric pronoun can be used; either the anaphoric element has but one possible antecedent so that no confusion can arise as to its identity or, if the antecedent is not explicitly expressed, it should be coreferential with the topic of the preceding paragraph.

> (12) *La tentative de Kaplan* possède à la fois une immense portée et un domaine d'application très limité. Sa portée immense, c'est de proposer un modèle d'interprétation sémantique cohérante.....Sa portée limitée s'explique par le fait que les déictiques ne sont pour Kaplan qu'un example linguistique d'une part de référance directe, et d'autre part de phénomène réclamant la distinction du contenu et du caractére...........
>
> *Elle* a préparé la voie aux sémantiques directement référentielles........

If only grammatical cues were taken into account, there is a possibility of confusion in this example for a reader not familiar with linguistics. However, the writer of this article assumes his audience to have the extralinguistic knowledge required in order to find the only possible referent, the topic of the preceding paragraph,'*la tentative de Kaplan*'.

Hoffmann (1989: 245-246) goes on to state that in cases where anaphoric pronouns bridge across the paragraph boundary, their function is to link the paragraphs thus united into a larger functional unit. This conception of paragraphs forming a larger functional unit is closely related to the idea of the paragraph having a double value proposed by Bessonat (1988). The paragraph can be a marker of the linear organization of a discourse, but it can also form a part of the hierarchic structure of the text. Consequently the text could have a 'key paragraph' and several subordinate paragraphs. One example of this kind of organization is the derived thematic progression of Danes (1974) in cases where the hypertheme is expressed first and the derived or subthemes are each further developed in subsequent paragraphs.

Like Hoffmann, Le Ny considers paragraphs as pragmatic signals to the readers based on cognition. He goes so far as to suggest that the writer thinks in terms of paragraphs, that he develops his argument point by point, paragraph by paragraph until the argument is complete (1985: 127). If this were true, the paragraph would have a double function: 1) to provide new information but 2) also to restrict the possibilities of interpretation through the paragraph's metatextual function, i.e. it is supposed that the mobilized cognitive processes of the writer and those of his readers are to some extent isomorphic. According to the conception of the dialogic nature of all discourse, Bakhtine (1977: 158) argues that paragraphs are analogous with the turns of a dialogue. "The division of the discourse into parts, called paragraphs in writing, is motivated by the adjustment to the anticipated reactions of the reader". (My translation.)

The notion of paragraph as a cognitive unit is of interest if we study the paragraphing of Finnish and French academic discourse on the local level, i.e. how the transition from one paragraph to another is marked. In both cases the connectedness is achieved partly by anaphoric nominalizations, which are frequently accompanied by a demonstrative or deictic pronoun. As Combettes (1988: 27) points out, the use of the demonstrative in such cases forces the reader to accept the concept as textually or pragmatically evoked. The function of these anaphoric nominalizations is to express in a condensed form the central content of the preceding paragraph(s). Thus they mark explicitly what is to be conserved and what can be wiped off the mental blackboard. In the Finnish texts of my corpus, the distance between the anaphoric nominalization and its referent is, however, shorter than in the French texts; for example, no anaphoric nominalizations reaching across headings are found. A condensing anaphoric nominalization without a demonstrative or a deictic pronoun is also used in the Finnish discourse of my corpus, thus making the marking less evident than is the case in the French discourse.

The anaphoric nominalizations have yet another function in academic discourse. The pre- and post-modifications of nominalizations allow the narrowing down of the scope of the theme discussed in general terms in a preceding paragraph. The paragraph boundary is an explicit signal of a topic shift; the nominalization simultaneously ensures the cohesion and the dynamic progression of the text.

As is often pointed out, connectors are not necessary elements of text construction, even if they are explicit signals of text coherence. According to Rudolph (1988: 100-101), their use implies a certain distance on the part of the speaker from the reported facts and events. Secondly, they guide the readers into keeping a similar distance. Does the paragraph boundary act as another barrier to such pragmatic information in French or Finnish? Connectors in general, but especially argumentative and counter-argumentative connectors (Roulet et al. 1985) - cf. Rudolph's (1988) connection of contrast and causality - are less frequently used to bridge across the paragraph boundary in the Finnish texts of my corpus. The consecutive connectors are an exception in this respect and especially 'siis' (= 'donc', 'consequently'), is used to tie together remarks or conclusions in the preceding paragraph(s). Particularly salient is the scarcity of the counter-argumentative connector 'mutta' (= 'mais', 'but') in paragraph initial position. According to Roulet et al. (1985: 112), this connector has the most marked counter-argumentative value. However, the Finnish texts of the corpus make frequent use of the counter-argumentative connectors 'mutta' (='mais', 'but' and 'kuitenkin' (='cependant', however) in order to express the logical connections of propositions within a paragraph. On the other hand, counter-arguments are also presented in a weakened, less explicit form through a member of the M.I.L. category 'toisaalta' (= on the other hand). Furthermore, the range of connectors used to connect paragraphs is very limited in the Finnish texts of the corpus. The consecutive connector 'siis' (= 'donc') discussed above is by far the most frequent.

Connectors reaching across the paragraph boundary are especially scarce in the students' summaries produced in L2. This phenomenon can be accounted for by several factors: 1) as even the mastery of intersentential connectors causes problems (cf. Hildén and Suomela-Salmi 1981), it is only natural that these are avoided when larger units are in question. 2) Finnish uses different linguistic means, for example clitics, to express logical relations and connectedness between paragraphs which in French are expressed by explicit logico-syntactic means. (Fernandez-Vest, 1988: 107).

> (13) Tulkittiin*pa* vastakysymys kysymykseksi tai vastakysymykseksi, se osoittaa aina, että B pitää A:n kysymystä jollain tavoin epärelevanttina....

In this example the clitic *-pa* expresses the concessive relation connecting the former paragraph and the new paragraph which continues the discussion on the two alternatives already presented to the reader. In French this relation would have to be expressed by an explicit connector 'quoique'.

> (14) *Fokusointi*siirrot*kaan* eivät ole mielivaltaisia.......Fokusointi perustuu diskurssivaatimuksiin. Diskurssikytkeinen elementti *fokusoidaan*..........
>
> Huomattakoon, että *fokusoimattomatkin* lauseet ovat hyvänmuotoisia,mutta ne ovat kontekstissaan outoja.

Example (14) shows the interplay of clitics *-kaan*, *-kin*, which in this case express additive relations, and the use of repetition in order to connect the paragraphs. In the latter paragraph the repetition in fact expresses an antithetic semantic relation (fokusoimattomat/*kin* = not focused/*either*). The use of an explicit counter-argumentative connector 'vaikka' = bien que' would have been possible; instead, a metatextual marker 'huomattakoon' (= 'il est à noter que', 'it is worth noting') is used to signal the opposition to follow. 3) The summaries of master's degree theses are not yet academic discourses in the proper sense of the word, i.e. the argumentation is but weakly developed, whereas the informative function is dominant.

3. Concluding remarks

Marking of all the categories of textual organization dealt with in this paper is linguistically possible in both French and Finnish. However, if the Finnish and French texts of my corpus were put on a scale measuring the degree of explicit textual structuring, the French texts would belong to the categories of very dense to moderate explicit marking whereas the Finnish texts would belong to the categories of moderate to scarce explicit marking. In particular, the density of the M.I.L. category is different in the two languages; for example, Finnish discourse very seldom marks the textual organization of the same sequence twice. The scarcity of connectors bridging across paragraph boundaries in Finnish academic discourse could of course be explained by the fact that such usage is discouraged in our written tradition, because it is not considered elegant. The question WHY?, however, remains. Is the cognitive status of the paragraph different in Finnish? Or is a narrative text strategy adopted rather than an argumentative strategy, which makes more use of connective expressions to indicate explicitly the speaker's opinion of the relationships of facts or events (cf. Rudolph 1988)? On the other hand, Finnish academic discourse favours more implicit means of indicating textual organization: a stronger reliance on the linearity of discourse; the use of antithetic semantic relations; clitics to express those relations that French discourse has to express by explicit logico-syntactic devices; typographic means, etc. This different marking of textual organization may, however,be very disorientating to the native French reader because of his different expectations, since French argumentative and expository texts are especially densely marked by textual organizers (Schneuwly and Bronckart, 1986: 289, 291).

It would be tempting to explain these subtle differences as being due to differences in academic traditions and varying intellectual styles as Clyne (1987) does for argumentation. However, the influence of linguistic factors, such as the so-called 'free' word order in Finnish, is probably also involved, and this should be taken into consideration, too (Enkvist, 1990, personal communication).

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Appendix

Translations of the Finnish examples :

2) Of special interest in the adaptation theory are its implications. I shall mention only *two* of them: variability and contextual influence.

3) According to Verschuren there are macro- and microadaptations. For example the adjustment of language is from the point of adaptation a macro phenomenon. As an example of adaptation on the micro-level *again* the terminology of addressing can be cited.

Another important point is the bidirectionality of adaptation.

6) Whether combining is purely compositional or can somehow affect the result obtained from the parts, is for the moment one of the problematic questions in the study of CG.

On the other hand CG is the only grammar model which in itself, as a purely theoretical construction, has a connection with semantics. In addition its sentence analysis ....

10) The view of the discontinuity of historical events is put forward by *Michel Foucault* in his book 'Les mots et les choses'(1966)...*Jaques Derrida* again 'radicalizes' Foucault's point of view:...*Jean-François Lyotard* has borrowed his key concept, i.e. "the language game" from Wittgenstein's late philosophy, and he again "radicalizes" Wittgenstein's point of view....

13) Whether the question is considered a question or a counterquestion, it always shows that B considers A's question as somehow irrelevant.

14)The *focus shifts* are not arbitrary *either*....Focusing is based on discourse requirements. The discourse connected element is *focused*....

It is to be noted that *even unfocused* sentences are well formed, but they are odd in the context.

Composing on the computer: a study of writing habits on the job

ELEANOR WIKBORG

Abstract

This interview investigation of the writing habits of 7 subjects focusses on the non-professional writer, that is on the writer who regularly uses word processing to compose texts at work, but who does so as only one of several other equally important tasks. The aim of the investigation is to get some idea of the variation to be found in how these writers use word processing to compose longer texts (4 pages or more).

After describing the research methodology, this paper reports on what I perceive as the changes in my subjects' writing habits that have come about as a result of their adaptation to the conditions of working with a word processor. It then goes on to discuss two ways in which the technology appears to be affecting the writing process, namely, the ways writers go about planning their texts when they have access to a word processor, and the ways they go about achieving coherence in their texts.

1. **Introduction**

This study is one of several being carried out in the project "Computer Based Writing" at the Computing Science Department at Stockholm's Royal Institute of Technology (RIT). Other studies within the project led and initiated by Kerstin Severinson-Eklundh are: a survey of word processor users at RIT (1987, 1989b), a program which simulates the paper metaphor on screen (Englund, forthcoming), two case studies of how people use outlining programs (1989a and this volume) and the design of two keystroke recording programs, i.e. programs that register every command that a user executes while writing a text.

My study of the writing habits of people who use word processing to compose texts on the job is a follow-up of the survey of 70 word processor users at RIT mentioned above. The purpose of the survey was first, to identify these users' perception of their writing habits on the computer, and second, in a follow-up questionnaire, to see if these perceptions had changed over a period of two and a half years.

The aim of my own in-depth study of a far smaller group of writers is to get some idea of the variation of be found in the way writers use word processing to compose longer texts at work (4 pages or more). The ultimate aim of the study, as of all our studies, is to work out the ways in which computer support can be better adapted to writers' needs.

Where most studies of the effects of word processing on writing habits have focussed on students or on professional authors, my focus has been on the writer who regularly composes texts at work, but does so as only one of several other equally important tasks. I am now nearing the completion of an in-depth study of the writing habits of 7 subjects whose professions are: an engineer, an administrator, an economist, a psychologist, a union public relations officer and two computer scientists in the communications industry.

The investigation was carried out as follows: The subjects filled in the same, slightly expanded questionnaire which was developed for the RIT survey (Severinson Eklundh and Sjöholm, 1987). The questions are designed to elicit descriptions of how writers go about planning, developing and revising their texts, both with and without word processing. On the basis of their replies, I then asked my subjects to describe their writing habits in greater detail in an interview, and in most cases I was also given an example of their texts to analyse.

I had aimed at studying several versions of one text per subject, but it did not prove possible in all cases actually to get hold of different versions. This is the most unsatisfactory part of the study so far, and we hope it will be remedied in future work. Two of the subjects have actually offered to submit to writing with a key-stroke recording program, which means that we will have access to every single move they make in the process of creating a text. The findings of this paper are thus based more on what my subjects have told me about what they do, than what they actually do.

This study focuses on what I perceive as the changes in my subjects' writing habits that have come about as a result of their adaptation to the conditions of working with a word processor. This then is what 7 non-professional, but, as it turned out, highly self-aware writers, have told me about how they have adapted their composing strategies to the advantages and disadvantages of their particular word processing programs.

2. How writers adapt their composing strategies to word processing conditions

2.1. *Fuller note-taking*

The ease of writing and storing texts has inspired three of my subjects to make fuller records of various work activities. In addition to serving as records, these texts are also perceived as forming the potential raw material of future texts.

One subject reports that where he used merely to record the decisions arrived at in a meeting, he now also writes notes on the discussion that led to the decisions. Another describes how, for example, when a sales strategy is discussed on the communications network, this discussion is stored in the computer memory, thereby creating a kind of work-book of the various suggestions and views that were aired. Yet another, a psychologist, uses Apple's Hyper Card to make notes of what people tell him about their research, organising them by means of Hyper Card's nodes and links. He reports that this structuring work helps him assimilate the material, in what he calls "a process of self-instruction" (Swedish: "ett själv-pedagogiskt arbete"). He also uses ordinary word processing on a lap-top to take notes at conferences, which he stores in his Macintosh.

All these various types of notes are seen as the possible raw material for future texts.

2.2. *Writing in short spells*

3 of my subjects mention being able to work on a text for short periods of time as one of the advantages of word processing. Their situation at work means that their writing sessions are frequently interrupted by demands on their attention and so, they say, it is heartening to discover when one returns to the screen that one has already produced some form of recognizable text. One of the subjects, an engineer, commented that word processing in this respect supported his and, according to him, many other engineers' habit of dividing the text up into very short passages governed by a host of headings and subheadings. (For an example of a text written by this subject, see Wikborg, 1989.)

2.3. *Jumping around in one's text*

Another advantage these subjects mention is that both the computer condition itself and the habit of writing in spells frees them from the requirement that they compose their text linearly, i.e. that they start at the beginning of their text and gradually work their way to the end. Writing linearly means that you construct your text by steadily adding paragraph to paragraph, one by one, like beads on a string - a process that requires relatively long periods of concentration. My three subjects appreciated the way word processing enabled them to jump around in their texts, to work a bit on one section and then again a bit on another. They also find it useful to skip from one section to another if they decide an idea fits better there.

2.4. *The use of outlining facilities*

Only 2 of the 7 subjects were interested in using outlining programs. These programs were used for structuring, but equally important, the outlining facility was seen as a way of gaining perspective on the main ideas of the text. One of the subjects reported that he checks coherence by looking at the headings of only one level at a time . Another describes how, when he is writing, he may get an idea and will decide "Oh, I've got to include that somewhere." In a long piece, the relevant spot can be difficult to locate, so he switches to Word's Outline mode, and scans the chapter and section headings to locate and then open the section into which the idea will fit.

2.5. *The use of windows on the screen*

On paper you can compare several texts by spreading the pages out on your desk. Two of the subjects had access to programs that will divide the screen into two or more windows, and they used this facility for the same purpose, i.e. to scan texts in another file in search of bits of text they wanted to incorporate into the new one.

They did not, however, report using windows to compare different parts of the same text. Going back and reading what one has just written is an important part of the process of developing the main line of argument in a longer text, but perhaps writers feel this is best done on paper.

3. **Implications for the writing process of computer-adapted composing strategies**

In the way word processing facilitates some writers' need to work on a text in short spells, as well as the practice of skipping about in the text to work first on one part and then another (Sections 2 and 3 above), we see an example of the way the technology might be shaping some writing styles. To date there are at least two other ways in which the tool appears to be affecting the writing process. One is the way writers go about planning their texts when they have access to a word processor, and the other is the way they go about achieving coherence in their texts.

3.1. *A decrease in planning activities*

Research in the U.S. comparing the use of pen and paper with word processing has indicated that in the latter condition both apprentice and experienced writers tend to plan less before they start writing their texts (Bridwell et al.,1987; Haas 1989a). The American research has identified three possible factors which may inhibit planning on-line.

Some studies report, first, that both student and experienced writers are lured by the screen into focusing their revisions on the word and sentence level. As a result attention is distracted from consideration of the main points of the piece (Collier, 1983, Case, 1985, Bridwell et al., 1987). Second, there is no computer support for the note-taking, scribbling and diagrams which many writers use to plan their thoughts.

And third, studies of reading on screen have shown it to be slower than on paper. Moreover, the time consumed by locating the specific piece of text you are looking for in a longer text by scrolling on screen further inhibits that process of constantly rereading or "rehearsing" a longer text which is so crucial to the process of creating a sustained argument (Haas and Hayes, 1986).

Of my 7 subjects, 2 report never feeling the need to plan what they are going to say before actually starting to write the text itself. The other five plan in varying degrees and ways - 2 report working out the main headings of longer papers before starting to write, while the other three report using diagrams or lists to plan for a range of 10-50% of the texts they write. This means that even those who do like to plan out some texts, produce a large number of texts which are not pre-planned. All seven subjects refer to the ease of adding and moving pieces of text as factors which make planning (in the sense of rearranging the order of their ideas) on the computer so much easier than it was on the typewriter. As for planning on the local level, one of my subjects reported feeling overjoyed that he no longer had to plan a whole paragraph before actually writing it. Working on paper required so much more discipline, he said, whereas on screen, as he put it, "it's the ability to hop [around in the text] that is so nice".

Two of my subjects who used to plan on paper before starting to write report doing so less now. That their report reflects a more general decline in the use of paper for planning emerges in the Severinson Eklundh and Sjöholm study in which the same 65-odd subjects were interviewed twice - once in 1985 and again in 1988. The percentage of those who reported using no manuscript whatsoever, not even keywords or headings, increased in those three years from 33% to 49%.

Three of my subjects - all of whom are planners - noted that they did virtually all of their planning on screen. As one of them put it "I used to have lots of hand-written notes before sitting down to the typewriter. Now I never do that." Two other subjects said they only planned longer texts on paper.

Such findings suggest that word processing is changing the nature of planning: my subjects describe how they "feel their way" towards the formulation of their main ideas, towards the structure of their text by means of constantly moving, cutting and adding bits of text. Of course the kind of writer who discovers what she/he wants to say by generating a lot of text - the so-called "discoverers" - have always felt their way into their text by first writing masses, and then salvaging some bits and jettisoning the rest. Still, the computer makes it possible to amalgamate planning and execution in a new way. By reducing the time lapse between planning, execution and revision, it would appear then to support the complex interaction between these activities which cognitive psychologists, such as Flower and Hayes (1981) have described as natural to the writing process.

On the other hand there are those studies I mentioned which suggest that word processing leads instead to the inhibition of planning. The results are still inconclusive simply because it is particularly difficult under computer conditions to distinguish planning from execution and revision. Key-stroke recording programs, such as are being developed at our laboratory and elsewhere, will enable us to study every single operation by which writers compose their texts. Used in combination with think-aloud methods of observing how people write, we hope that in future studies, these programs will provide us with greater insight into how the planning, generation and development of ideas interact under word processing conditions.

One of my subjects has an interesting story to tell about his experiences of planning on the computer. He reports that he has tried to wean himself from what he sees as an addiction to working on screen. He used to spend up to 10 hours a day working on a text at the computer. He says, "It's so much fun to write that it's easy to get caught." He reports consciously trying to cure his habit by planning on paper before starting to write, a proceeding which was quite new to him. Now, he told me, instead of just starting to write and then attending to coherence later, he deliberately plans away from the word processor. He scribbles diagrams and ideas on paper, forgets about them, then sets about making new notes and arrows and boxes. He describes these activities as, in Swedish, en "mental bearbetning av ett material", a form of mental processing and preparation, and says, "I do more of this kind of work and put off the actual writing until everything is more worked out in my head". For one subject at least the fun of word processing was thus experienced as actually distracting to planning.

4.2. *Changes in the process of achieving text coherence*

Five of my subjects - even those who liked to do all their work on-line - reported a need to check the overall coherence of their texts on paper, at least in the final stages of their work. Many writers of longer pieces of expository prose (but by no means all) have commented on how difficult it is on a small screen to keep their main ideas firmly in mind - in other words, to achieve that global perspective which is so crucial to text coherence. It takes time on screen to scroll back to the place in your text that you need to reread in order to take that next step in the development of your thought, and when you have found it, you can no longer read the part you have just written. Most of us resort to paper print-outs at this point.

But the difficulty of getting what Christina Haas in her studies of this problem has called "a sense of the text" on the screen (1986, 1989b, forthcoming) has a direct effect on the writing process. The fact that writers cannot at the same time look at the paragraph they are working on on p 4 and the one that they need to reread on p 2 forces them to work in a different way. That is, they can no longer relate what they have just written to the main ideas of their text by an immediate comparison with what they wrote previously. Instead they must wait until they have scrolled back to the relevant passage, or until they can get a paper print-out. But scrolling back several screenfuls interrupts the thinking process, while waiting for a print-out means that the process of checking the text for global coherence is split off from the on-going development of the text.

The problem of gaining proper perspective on one's text on screen thus forces writers to delay the work of achieving global coherence until a later stage. This delay may make attention to coherence a more conscious process, which has its advantages. On the other hand, by interrupting, the delay may also inhibit some of the myriad of tiny unconscious steps by means of which writers work out and make coherent the governing propositions of their text. There is evidence to suggest that such is the case (Haas, forthcoming; Grow, 1988).

In the interests of text quality - especially of texts produced by untrained writers, of whom there are many struggling along in the workplace, it is important to find out what kind of composing decisions are in fact enhanced and what kind inhibited by word processing. Sondra Perl's research (1979) using the think-aloud method indicated that the unskilled writers working on paper may actually produce more text orally than they actually write down. Think-aloud protocols in combination with keystroke recording of scrolling commands may be a way of discovering which, if any, composing ideas are never actually executed on the computer. Conversely, the same methodology may help us discover, for example, the degree to which the computer's ability to quickly move ideas from one section of a text to a distant, possibly more appropriate one, may be a means of facilitating the process of achieving text coherence.

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The use of "idea processors" for studying structural aspects of text production

KERSTIN SEVERINSON EKLUNDH

Abstract

Word processors have been shown to favour a local perspective on the text during writing. Recently, advanced outline processors or "idea processors" have appeared, which allow the writer to represent and handle structural aspects of a text. In such a program, the writer may compose the text within an outline, and experiment with different organizations of the ideas during the process. In other words, the text grows together with the text plan, which results in a new kind of writing process.

In this paper, data are presented from case studies of a few writers who used an idea processor for writing long and complex texts. Results suggest that the use of an idea processor may encourage writers to focus early on global properties of the text. Specific properties of the idea-processing program which may affect the writing process are discussed, as well as the compatibility of idea processors with different writing tasks and writer styles.

1. Introduction

The use of word processors has implied greater flexibility and freedom for many writers. However, there is increasing evidence that they do not provide the optimal tool when it comes to supporting global aspects of text production. In fact, recent findings indicate that the word processor tends to produce a "local bias" in the writing process for many writers.

The local perspective on the text shows up in writers' strategies of revision. One frequently hears from writers that the use of a word processor has made them pay greater attention to the style and appearance of the text (see e.g. Severinson Eklundh and Sjöholm, 1989). Experimental studies have shown that writers revise up to 5 times more when using word processors than when writing on paper (Card, Roberts and Keenan, 1984, Lutz, 1987). Most of those changes were on word and phrase levels, and in one of the studies (Card et al.), as many as half of the changes did not measurably improve the quality of the text.

Moreover, many such changes occur early in the writing process, when the text is only partly planned. This can be seen in preliminary results from a current writing experiment in our laboratory, using keystroke recording.

Experimental studies using think-aloud methodology have also shown that writers tend to plan less when using a word processor than when writing on paper

(Haas, 1989). In particular, the effort spent on planning at the beginning of the writing process is significantly lower for writers using a word processor.

Taken together, this seems to be an inefficient allocation of resources during the writing process. One might raise the question of why writers devote so much time at an early stage to local revision and so little time to planning (see also the discussion in Eleanor Wikborg's paper in this volume). In a survey of writing at the Royal Institute of Technology (Severinson Eklundh and Sjöholm, 1989), we found that a number of writers have come to realize this deficiency after using word processing for some time, and started to work on planning as a conscious strategy.

In this paper, I will discuss a new kind of computer support for writing, "idea processors," which are explicitly designed to support planning and text organization during writing. By describing results from case studies, I intend to show that these kinds of programs have properties quite different from word processors, and that they may, for some writers and tasks, promote a global perspective on the text.

2. What is an idea processor?

The notion of an "idea processor" might seem strange. Of course, it does not imply that the computer has any active role in the idea-generating process during writing. In fact, the term itself is far from being generally accepted. Using the same abbreviation, one might instead prefer to talk about an "integrated text and planning support" (IP support) for writers.

In essence, these programs are computer aids for organizing notes as well as composing text. The most common case is a straightforward outline editor. In their early forms, such programs could only be used for creating and restructuring outlines consisting of headings, and not for writing text in paragraph form. Today, the outline editors are generally integrated with word processing. A few idea processors are full-blown hypertext programs, which means that the writer can use them to represent text "nodes" as interconnected with "links" in a free and partly non-hierarchic manner. In certain experimental environments, idea processing facilities are included in more comprehensive sets of tools designed for various stages of writing (see e.g. Halasz, Moran and Trigg, 1987, Smith, Weiss, and Ferguson, 1987, Streitz, Hannemann and Thüring, 1989).

When using the term "idea processor" in this paper, I shall only presuppose the following basic properties, also typical of advanced outline programs:

- There should be a general facility for *entering, structuring and reorganizing text notes* to form an outline. In this way, a hierarchic text structure is represented.

- This should be combined with *word-processing functions* so that the outline can be expanded to full text at each level of the hierarchy. It should be possible to alter the text at any time while having simultaneous access to the structure.

- The current structure of the text should be *visible* (so that the subordination and superordination of ideas is spatially rendered) and *easy to revise.*

- An important property which distinguishes these programs from traditional tools for writing is that the structure (outline plus text) can be "collapsed", to be viewed only on a selected level. This is an aspect which many writers seem to appreciate particularly, and which seems to compensate partly for the restricted view of a long text on a computer screen.

Many idea processors also contain additional facilities such as commands for displaying a diagram of the text structure, for sorting, marking and hiding headings or notes, and so on.

3. The relevance of idea processors for text structuring

In an idea processor, the text can be composed "within" the text plan or outline, which is a new way of writing compared to both traditional tools and word processing. By means of this property, idea processors also have the potential to become powerful research tools. They make it possible to study writers' textual planning together with the successive development of the text itself.

Moreover, structural operations are given priority in an idea processor. The current structure of the text is visualized and can be shown on different levels of detail. One might expect that the use of an idea processor would support the writer's memory of the whole text and facilitate further planning. Another hypothesis is that in the early stages of the writing process such a structuring aid will encourage the writer to pay attention to the overall organization of ideas and text rather than to low-level issues.

4. Case studies of writing with an idea processor

In the interdisciplinary research environment IPlab, a small number of case studies are being carried out, involving writers using an idea processor in their ordinary text production. A survey has also been carried out with 24 writers who used idea processors, the results of which are currently being reported. In this paper, I will discuss data from two of the case studies, representing two different writers and their strategies with regard to aspects of planning, text structuring and revision during the writing process. The first of the case studies is described in more detail in Severinson Eklundh (1989).

4.1. Data collection

The data was collected in the following way: The writers regularly saved new versions of the text on disk. It was agreed that they would save a version at least once every day of writing, and preferably more often if and as soon as a "considerable change" had been made in the text (what was a major change was to be determined by the writer). This may seem a subjective criterion, but it was judged to be of minimal disturbance to the writing process. The versions were later printed out, the print-outs were compared manually and revisions were recorded. Computer programs that compare the text versions were also used. In addition, the writers were interviewed several times during the period of writing about the status of the text and her/his attitudes towards the outlining program.

Case study 1

The subject was a graduate student of architecture, with good writing skills and considerable interest in computers. During a period of approximately 18 months, he used an idea processor (More 1.1) for writing several long and complex texts.

As an idea processor, More 1.1 (now a trademark of Symantec Corp.) was used with an Apple Macintosh. More is one of the most advanced outline processors with integrated word processing functions. The writer enters notes in the form of headings to form a hierarchy. To write sequential text, a text window connected to the heading is opened and text of arbitrary length can be written in it as in a word processor. At any time, the writer can return to the outline with the text still visible. When the text window is closed, a small mark in front of the current heading will show that it "contains" text. Opening and closing text windows, as well as restructuring operations, can be done instantly either by clicking with the mouse, by selecting in a menu or by using keyboard commands.

The writer was already familiar with computers and with the More program when the study was initiated. He was about to compose a long text and volunteered to be a subject of the study.

The observational study involved 4 writing tasks (see Severinson Eklundh 1989). Several other tasks were initiated during the period and were commented on in the interviews. The four tasks were: A paper about expert systems to be used as reading material in connection with a lecture; a conference paper about creativity and computers; an essay about postmodernism for a journal (which was not finished in time); and a building description to be submitted together with drawings for an architectural design competition.

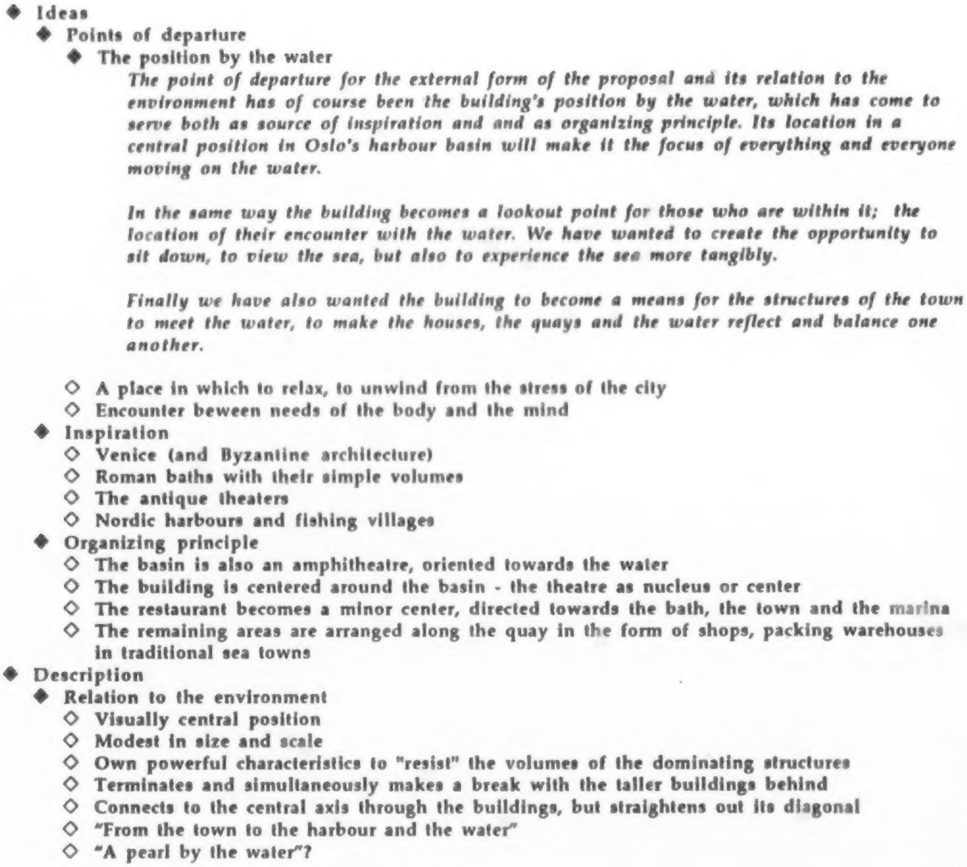
Altogether, between 18 and 28 versions of the text were collected for each of the four writing tasks. This corresponded to more than 50 hours of writing on-line. The length of the final texts ranged beween 4,000 and 6,000 words for those three of the tasks that were eventually completed.

I will now try to summarize the main strategies used by this subject in building up the text structure and in arriving at a final version. For all the tasks, the work proceeded roughly in the following three stages.

Stage 1. In the first stage, the subject attempted to create a detailed outline for the text. This was an extensive planning period which also included much revision of structure. The interviews supported the impression that the writer attempted to think through the whole writing task at this stage, and produce a plan as useful and complete as possible before writing linear text.

These initial outlines comprised between 400 and 600 words in each of the four tasks. They consisted of short headings in a hierarchy with 3-6 levels. The linguistic properties of the headings reveal that the writer did not just attempt to create a traditional outline of the main sections of the text, but used the idea processor to engage in more detailed planning. (See Fig. 1, where part of an outline is shown with one introductory paragraph.) On the highest levels, the headings are usually phrased as section labels in an envisioned final text ("Introduction", "Points of departure", etc.). But on the lower levels, the outline entries more often act as loose containers of enumerated ideas, rendered in very different forms. These low level notes are sometimes given the form of full clauses, sometimes they are elliptic constructions, and generally they have a linguistic form which is *not* characteristic of headings in a final text of this genre. This contributes to the impression, confirmed by the subsequent composition stage, that the subject used the idea processor for detailed planning of his argument down to the level of individual sentences, but without actually formulating these sentences.

Figure 1. *Case study 1: The first page of outline 2 of "Building description" (translated into English)*



- ◆ **Ideas**
  - ◆ **Points of departure**
    - ◆ **The position by the water**

      The point of departure for the external form of the proposal and its relation to the environment has of course been the building's position by the water, which has come to serve both as source of inspiration and and as organizing principle. Its location in a central position in Oslo's harbour basin will make it the focus of everything and everyone moving on the water.

      In the same way the building becomes a lookout point for those who are within it; the location of their encounter with the water. We have wanted to create the opportunity to sit down, to view the sea, but also to experience the sea more tangibly.

      Finally we have also wanted the building to become a means for the structures of the town to meet the water, to make the houses, the quays and the water reflect and balance one another.
    - ◇ **A place in which to relax, to unwind from the stress of the city**
    - ◇ **Encounter beween needs of the body and the mind**
  - ◆ **Inspiration**
    - ◇ **Venice (and Byzantine architecture)**
    - ◇ **Roman baths with their simple volumes**
    - ◇ **The antique theaters**
    - ◇ **Nordic harbours and fishing villages**
  - ◆ **Organizing principle**
    - ◇ **The basin is also an amphitheatre, oriented towards the water**
    - ◇ **The building is centered around the basin - the theatre as nucleus or center**
    - ◇ **The restaurant becomes a minor center, directed towards the bath, the town and the marina**
    - ◇ **The remaining areas are arranged along the quay in the form of shops, packing warehouses in traditional sea towns**
- ◆ **Description**
  - ◆ **Relation to the environment**
    - ◇ **Visually central position**
    - ◇ **Modest in size and scale**
    - ◇ **Own powerful characteristics to "resist" the volumes of the dominating structures**
    - ◇ **Terminates and simultaneously makes a break with the taller buildings behind**
    - ◇ **Connects to the central axis through the buildings, but straightens out its diagonal**
    - ◇ **"From the town to the harbour and the water"**
    - ◇ **"A pearl by the water"?**

Stage 2. In the next stage, the writer gradually worked from outline to linear text by "filling" the headings with text. This process had a somewhat different character in the different tasks, depending on the writer's knowledge and the situation surrounding it (see Severinson Eklundh, 1989). The writer generally attempted to proceed linearly through the outline, sometimes skipping headings to come back to them later. In none of the tasks, however, did the outline remain unchanged as linear text was created. Instead, the structure was regularly reorganized and revised as a result of formulating text. Often these changes consisted of new ideas that were entered in the outline, but it was also frequent that "old" ideas were restructured as a result of formulating text.

In most cases, the restructuring operations affected only the parts of the outline that had not yet been filled with text. This strategy was commented on by the writer in the interviews. He found it to be one of the main advantages of using an idea processor that one can explore and experiment with one's ideas about the writing task down to a very detailed level, and then change the macro-structure at any time without having to bother about consequences in the form of linguistic "contracts" taken by sentence formulations. However, in one of the tasks, there were several changes made to parts of the outline that already contained text paragraphs. This was evidently due to a problem of overlapping content between sections which the writer encountered rather early during the writing process. He made repeated macro-structure changes, using More's structuring capabilities to explore different organizations of the text before arriving at an acceptable solution. Some of these changes resulted in sentence-level revisions to achieve cohesive transitions between paragraphs.

During the composition of text there was usually a considerable "pruning" of the outline tree. In other words, as the writer went on to transform the ideas of the outline into full sentences and paragraphs, he continuously deleted part of the headings of the outline. Generally, the headings that were deleted at this point were on the lower levels in the hierarchy, and corresponded in their content to sentences rather than whole paragraphs or sections. This means that many headings still remained as titles of smaller sections of the paper. However, it was clear that the writer did not intend these remaining headings to be kept as titles in the final texts. (He reported that he viewed these texts as "not very hierarchic in themselves".) Rather, he wanted them in order to "keep a consistent structure" and as a future record of the content of the text.

There was practically no low-level revision of sentence formulations during this main stage of composition. This is also supported by the interviews. The writer wanted to avoid working on details of formulations until he had a draft of the whole text. He also found that the outline processor encouraged this way of writing.

Stage 3. Finally, the text was transferred to a word processor. The reason for this was that the writer was not satisfied with the word processing functions in More. He was quite interested in typography and wanted to have maximal freedom to choose a layout for the texts. Also, he felt that More made it difficult to see the document as a continuous text. As he worked through the text in the word processor, he made a large number of stylistic changes, and it also took comparatively long to finish writing, considering that very few ideas were altered at this stage. Although the writer himself claimed that the only work that remained for this stage was polishing sentences "to make them fit together more smoothly", he actually put a lot of work into the sentence and phrase level formulations. This was particularly true for one of the tasks (the building description), in which the writer evidently saw exact formulations as being particularly important.

Most of the remaining headings were also deleted at this stage, so that the final texts only contained a small number of section titles (fewer than 1/5 of the headings in the final More files were kept in all of the finished texts). Very few macro-structure revisions were made at this final stage (between 0 and 5 for all tasks); nearly all of them were deletions of whole paragraphs.

The final texts were readable and generally had a cohesive style. In fact, much of this fluency had been created in the earliest stage of composition in More. As the writer composed the text during stage 2, he often kept the text windows of previous outline headings open simultaneously, in order to be able to fit in the current sentence with the previously written text.

To sum up, this writer used the idea processor consciously for planning the content of the text, and kept the resulting outline as a guide to the macro-structure of the text while composing, though it underwent substantial revision during the process of writing. He was satisfied with the program as a support in these tasks, and mentioned explicitly in an interview that it had made him refrain from working on a low level of formulation too early during writing. He felt that he could not have worked in a similar way in a word processor: "In a word processor, I may get stuck for five minutes working on a formulation so that it will fit into the context and express exactly what I want to say - instead of going on with the overall structure of the text."

The writer found one major disadvantage with the particular outlining program used: It did not allow easy viewing of the whole linear text. In More, the text windows under different headings have to be opened one by one, and therefore, it may not always be a simple operation to view the whole text written so far. Even when the whole written text was expanded, the writer felt that the presence of the headings disturbed the view of the linear text, and he needed an option to see the text with the headings suppressed. Finally, he missed being able to write notes outside of the hierarchic structure.

4.3. Case study 2

The subject of the second case study is a researcher in English language and literature, and an experienced writer. She is using the outline facility of the advanced word processor Word 4.0 (of Microsoft Corp.) on an Apple Macintosh to write a book about English 18th-century women writers, based on extensive literary material. This is a much more comprehensive writing task than the papers written by the first subject. Since the book is not yet finished, the discussion here will deal only with the planning stage.

This was not the writer's first experience of idea processors. Before engaging in this task, she had used an advanced outline processor (MindWrite) to plan and compose a short essay on a related topic. Her reason for choosing Word for this task was that the production of a complete monograph required a more powerful word processor. In other words, the writer wished to use an outline program that could also be used later to finish the writing of the whole book.

Word 4.0 operates in two different modes: text mode and outline mode. One can write and edit text in either of the two modes. The main difference is that in the outline mode, the document is written and represented in a structured outline form, and commands are available to select and reorganize structural units of the text. (On the other hand, several of the typographic options are not available in this mode.) Just like in the More program, the mouse (or menu options) can be used to move a heading and its subordinate text upwards or downwards within the document, or to otherwise change its place within the hierarchy. Also, the writer can directly select a desired level on which to view the text, by pointing at a line of symbols on the screen. For example, in order to hide all parts of the outline which are placed on level 3 or lower in the hierarchy, one simply points at the figure 2 on the symbol line with the mouse.

The most important difference between More and Word is that Word (like many other commercially available outliners) does not make a distinction between headings and text in paragraph form. Text of any length can be entered as a "heading" or note. In order to write linear text under a heading, one must make it subordinate to the heading, i.e. place it on the next lower level in the hierarchy. In

More 1.1, as we recall, one can write text under a heading by opening a window under it, and this text will then be linked to the heading. (A more recent version of More allows headings to be of arbitrary length. This means that one can choose either to use it like Word, writing all text as entries in the outline, or keeping the linear text in document windows which can be opened or closed individually.)

I will now briefly summarize this writer's main strategies in using the outline program for planning and idea development. These observations are mainly taken from the growth of chapter 5 of the book, for which 18 versions are available. Similar strategies were used for the planning of the other chapters.

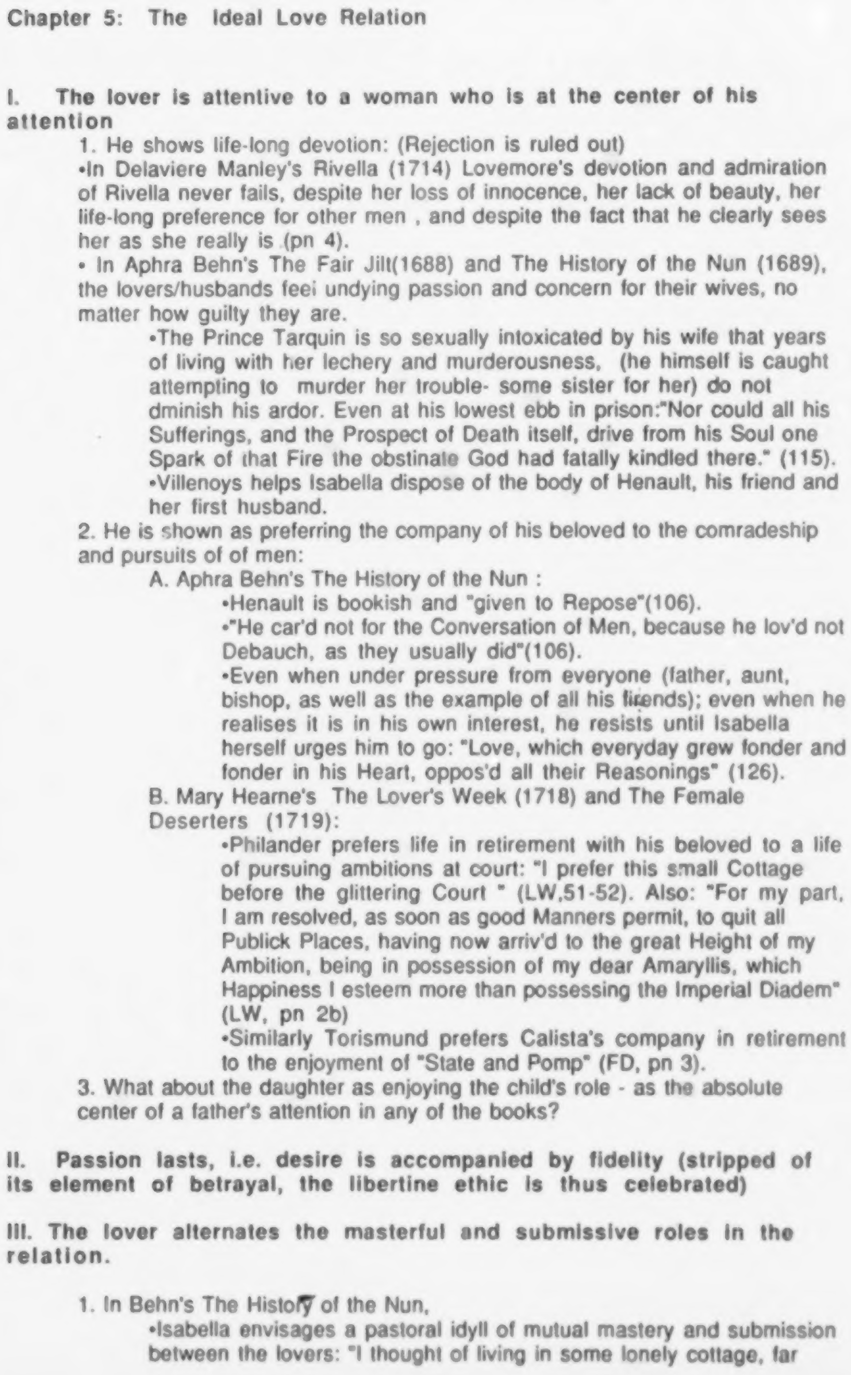
The writer used the outline program both for detailed planning of her argument, and for organizing the mass of literary support material for the task. The latter consisted of extensive handwritten notes from the reading of about 50 books, some of which are only available in research libraries.

The writer started in Word with brief sketches of each of the 5 chapters of the book. After this, she turned to a detailed planning of the last chapter, which included the conclusions and a summary of the main ideas that had grown from her reading. The general strategy for the continued work was to go through the handwritten notes again, and gradually expand the different chapter outlines into a more detailed argument.

The outlines are based on a small number of *governing ideas* (this is the term used by the writer), often in the form of a topic sentence. These notes are usually entered on the highest levels in the outline for a chapter. Support for the governing ideas is then gradually built up by listing "arguments" in the form of observations from the literature, which are entered as subordinated notes.

The writer uses several levels of depth for representing this argumentation. The higher the level in the outline hierarchy, the more abstract and the more generalized in form are the ideas. On the lowest level, the argument is supported by quotations and explicit references to the literature. These "support lists" are organized chronologically. (See Fig. 2.)

Figure 2. *Case study 2: The first page of outline 4 of Chapter 5.*



Chapter 5: The Ideal Love Relation

I. The lover is attentive to a woman who is at the center of his attention

1. He shows life-long devotion: (Rejection is ruled out)

•In Delaviere Manley's Rivella (1714) Lovemore's devotion and admiration of Rivella never fails, despite her loss of innocence, her lack of beauty, her life-long preference for other men , and despite the fact that he clearly sees her as she really is (pn 4).

• In Aphra Behn's The Fair Jilt(1688) and The History of the Nun (1689), the lovers/husbands feel undying passion and concern for their wives, no matter how guilty they are.

•The Prince Tarquin is so sexually intoxicated by his wife that years of living with her lechery and murderousness, (he himself is caught attempting to murder her trouble- some sister for her) do not dminish his ardor. Even at his lowest ebb in prison:"Nor could all his Sufferings, and the Prospect of Death itself, drive from his Soul one Spark of that Fire the obstinate God had fatally kindled there." (115).

•Villenoys helps Isabella dispose of the body of Henault, his friend and her first husband.

2. He is shown as preferring the company of his beloved to the comradeship and pursuits of of men:

A. Aphra Behn's The History of the Nun :

•Henault is bookish and "given to Repose"(106).

•"He car'd not for the Conversation of Men, because he lov'd not Debauch, as they usually did"(106).

•Even when under pressure from everyone (father, aunt, bishop, as well as the example of all his friends); even when he realises it is in his own interest, he resists until Isabella herself urges him to go: "Love, which everyday grew fonder and fonder in his Heart, oppos'd all their Reasonings" (126).

B. Mary Hearne's The Lover's Week (1718) and The Female Deserters (1719):

•Philander prefers life in retirement with his beloved to a life of pursuing ambitions at court: "I prefer this small Cottage before the glittering Court " (LW,51-52). Also: "For my part, I am resolved, as soon as good Manners permit, to quit all Publick Places, having now arriv'd to the great Height of my Ambition, being in possession of my dear Amaryllis, which Happiness I esteem more than possessing the Imperial Diadem" (LW, pn 2b)

•Similarly Torismund prefers Calista's company in retirement to the enjoyment of "State and Pomp" (FD, pn 3).

3. What about the daughter as enjoying the child's role - as the absolute center of a father's attention in any of the books?

II. Passion lasts, i.e. desire is accompanied by fidelity (stripped of its element of betrayal, the libertine ethic is thus celebrated)

III. The lover alternates the masterful and submissive roles in the relation.

1. In Behn's The History of the Nun,

•Isabella envisages a pastoral idyll of mutual mastery and submission between the lovers: "I thought of living in some lonely cottage, far

Compared with the subject of Case study 1, the outlines of this writer consist more of complete sentences. She mentioned in an interview that she preferred to write her text plan in full sentences rather than keywords, because this forces one to work out one's ideas explicitly.

The outlines also contain a small number of "process notes", i.e. instructions and reminders, which the writer addressed to herself for the continued writing process.

During the development of the outlines, the writer continually went back to reconsider the governing ideas to check if they were consistent with the new material. While working on-line, she used Word's collapsing function in order to view only the highest levels of the outlines. Her original motivation for making this a habit was that she could not print out the text as often as she wanted, the printer in her home being a rather slow one. However, as the text grew longer, this also became part of a conscious strategy which aimed at achieving consistency and coherence in the main argumentation of the text. When printing out a chapter, she also often made a separate print-out of the top level of the outline, a feature supported by the program.

Just like the writer of the first case study, this writer made structural changes in almost every new version of the text. However, these changes were of a somewhat different kind. She rarely reordered the governing ideas; rather, she would often increase the total number of levels by inserting newly formulated sub-arguments and adding new notes on literary material. The only types of text that would sometimes be moved to a quite different place in the outlines were a few general observations in the form of a short paragraph, which seemed to connect to the whole outline of the chapter.

In contrast with the writer of Case study 1, this writer worked repeatedly on formulations, especially of the "governing ideas" of a chapter. Consequently, the text on the higher levels gradually took on a well formulated character. Apparently, the writer thought more and more of these sentences as parts of a formulated text.

Generally, this writer seemed to integrate linguistic formulation into her thinking about the task much more than the subject of Case study 1, who wanted to postpone formulating his ideas into sentences until the plan was complete. This was evident also in her first essay written earlier in MindWrite. The writer's recollection of how work with this article began was typical: "Long before I started writing, I was sitting in Oxford with this sentence". This key sentence was in fact kept through all versions and occurred, slightly revised, in the second paragraph of the final text.

Since the book is not yet completed, we cannot comment on the final stage for this task. In the earlier task using MindWrite, the writer chose to write the final version as a running text of its own, under a separate heading. In the same document, she kept the structured outline for reference during the writing process. In other words, she preferred to rewrite the text from the start, rather than convert the individual notes of the outline into sentences and paragraphs.

In sum, this writer used the outline program both to develop a coherent and consistent argument and to keep a record of her supporting notes. In contrast to the first writer, she rarely reordered the basic ideas of the text; instead she used an increasing number of different levels for representing a gradually more elaborated argument. The program also enabled a quick orientation in the growing text by its facility of shifting between a high-level and a detailed presentation of the text on the screen. This way of planning seemed based both on a tradition of writing pedagogy, known by the writer through her experience as a teacher, and on her accumulated experience of the idea processor.

The strategies should also be understood against the background of the writer's own reflections about her writing style. She felt that the program suited her personal style with its support for detailed outlining.

> "I am the kind that adds one sentence at a time, very carefully. I think and I think, perhaps moving a sentence but no large chunks, once I have started writing."
> "It is the first time that I have used a computer for the planning stage. In this way one can save one's ideas, instead of perhaps forgetting them."

5. The compatibility of idea processors with different writing tasks and writer styles

As has been indicated earlier, idea processors cannot be expected to suit all writing tasks. The tasks involved in the current studies were long and rather complex. It seems clear that an idea processor, or any support for text organization, will favour those tasks that are inherently structured, or for which the writer has a certain structure in mind.

This was indicated by an experience of the writer in Case study 1. He was invited to give an introductory presentation at a workshop on a subject which he knew well. Although he did not have very specific ideas about what he should talk about, he tried to use an idea processor to explore his ideas about the subject. After trying intensely to compose outlines in More, starting from the beginning four times with partly new ideas, he gave up and took a break from writing. Finally, he had to use pen and paper to sketch his ideas before he rewrote the final text in a word processor. Afterwards, he said that his ideas had been just too vague for successful use of the outline processor: "It is best for tasks where you know fairly well what the text should be about, and where you also have some idea of a possible structure in mind."

It also seems clear that some writers do not feel their personal style to be supported by a structure support of this type. Rather than starting by making a plan for the text, they want to start writing directly to find out what they want to say. This was the case with a third writer, a psychologist, who tried to use an idea processor (More II) for writing an essay about learning computer programs. He was a competent writer with a personal, fluent style. After three sessions in More, he reported that he had abandoned the idea processor and started writing in a regular word processor. He gave as his reason that he "did not know when to stop structuring and start writing", and that he felt that "there is a risk for excessive structuring". He described his normal way of writing as follows:

> "I usually write to see what comes out, and then I write again. It is not really a structure, but a lot of words... Some parts of the text may turn out to be OK; others will change direction as I go along".

Although both the task and the writer's knowledge about it seemed to invite structuring, the explicit plan created was felt by the writer to be an obstacle rather than a support in his continued writing. He felt more inclined to make the text structure grow invisibly through the formulation of words and sentences in the word processor, and gradually develop the text from these notes.

Even for writers who favour explicit structuring, it is important that the program supports a "bottom up" strategy as well as the typical, "top-down" expansion of an outline. A writer may often need to write in the form of sentences and paragraphs for a while, and then go back to the global structure to relate it to what has been written. The writer of Case study 1 sometimes worked in this way in one of the tasks: He wrote a long text in a document window, and then he clipped it into smaller parts under separate headings. The reason was that he wanted to keep the whole structure consistent, thus being able to read the text in the outline mode (with only headings visible), to check his argument and the current content of the text.

6. The influence of specific program properties on writing strategies

In other respects too, the design of the program may influence writers' strategies considerably. The distinguishing aspect most relevant in this study is perhaps how the system represents "ideas" in relation to "text."

As mentioned in connection with Case study 2, there is a difference between More 1.1 and Word 4.0 in that More keeps a clear distinction between headings and linear text. They are separate entities, although connected in the system. The text connected to a heading may be opened individually. In Word, however, text of any length can be entered as a heading or "idea". The writer determines the function of a text node by its linguistic form, and all text notes on a certain level can be opened in one and the same operation.

Evidently, More promotes a clearer distinction between ideas and text than Word. This may have contributed to some of the differences between the writers of case study 1 and case study 2. Whereas the first writer started with a straightforward outlining stage, and only opened a text window when he was ready to formulate full sentences and paragraphs, the text of the second writer gradually took the form of full sentences, a way which also seemed to support her individual style.

Both ways of functioning of an idea processor have their advantages. From the point of view of the researcher, a clear distinction between plan and text in the outline may be preferable when studying certain aspects of the writing process. On the other hand, it may be difficult for a writer to maintain a distinction between notes/ideas and "real" text. In some situations a writer might prefer to let thoughts in elliptic form grow freely into sentences with no clear borderlines between them, and therefore the program should support this way of writing as well.

In several other respects, the design of the program contributed to the writers' strategies. We have already mentioned that in Word, selecting a single level to view the whole text is especially easy (by pointing at a number of the symbol line on the screen). In More and some other programs, it is not as quick and simple to do this, and writers therefore seem to find it more natural to select a level individually for each heading. In this respect too, one can debate which build-up of the program is the most natural procedure from the point of view of the writing process.

Finally, the program's basic way of operation may support outlining or structuring more or less clearly. There is in fact a distinguishing property between what is usually called an "outline processor" and a "word-processor with inbuilt outlining". In an outline processor, the outline is treated as the basic mode to view and operate on the structure of the text. In word processors, on the other hand, one often has to exit to a special mode in order to see the text in outline form, and in this mode, it may not always be possible to perform all the usual text-editing operations.

7. Preliminary findings

The experiences from these case studies suggest that for some writers and tasks "idea processing," or explicit planning in an integrated outline program, will promote a perspective of the whole text during the writing process. The writers of this study made frequent use of the structuring functions of an advanced outlining program when planning and composing a complex text. They frequently attended to global properties of the text while elaborating the plan, and gradually arrived at an acceptable macro-structure. This seemed to contribute to postponing local, surface level changes completely for one of the writers, whereas the other writer made such changes only in the formulations of governing ideas.

The idea processor also seems to have made it easier for these writers to orient themselves in the growing text. This is consistent with the preliminary results of a survey of writers using idea processors. They mentioned as the most important property of an idea processor that it gives them an improved global view (Sw. *överblick*) of the text, something that they have missed when using word processing.

Some writers, however, do not appear to have strategies that are supported by a program of this kind, but need to write continuous text in order to arrive at a mental plan for the text. Further, many writing tasks are not suitable for structuring support. They may be too short and simple, or focused on personal expression rather than structure. In the future, many of us will still need paper and pencil, a typewriter or a word processor to find out what we want to say.

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